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ORIGINAL ARTICLES.

SOME CLINICAL CASES OF DISEASE OF THE TESTICLE.[1]

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THE diagnosis of disease of the testicle is not always clear. The history is frequently inexact, and pathological conditions which differ widely from each other oftentimes have the same appearance and give the same sensations to palpation. Often it is only after repeated and frequent observation of the case, or after the appearance of a positive pathological condition which differentiates the disease, that a diagnosis is made. On the other hand, it may happen that no diagnosis can be made until after some operative procedure, either one which is simply exploratory, or one which involves the excision of the organ, and this delay, necessary perhaps, may jeopardize the life of the individual. To illustrate these points I beg leave to present for your consideration the following group of cases. The first one, which was marked by extreme suffering, presented no salient diagnostic features, and was only elucidated after the organ had been removed.

The patient, a man aged fifty-four years, came under my observation three days after the beginning of pain in his left testicle. He gave a history of having had several attacks of gonorrhea, the first one thirty-five years previously, and six subsequent attacks. They pursued the ordinary course, and I doubt if the man was ever entirely free from urethral discharge. He was a steady drinker but not an inebriate, according to his own story. His last attack of gonorrhea had occurred three years before he came under my observation, and about that time he had an internal urethrotomy performed by one of my colleagues. Three days before I saw him, after a long walk (to which the patient attributed the commencement of his malady), his left testicle increased in size and became more and more painful. The pain was so severe that it interfered with his work, and he entered the hospital. An examination disclosed that the left epididymis and the testicle proper were twice the normal size, hard, and extremely tender; the tissues of the scrotum were livid and edematous. There was no acute urethritis present, and he gave no history of syphilis or of traumatism. The man's general condition was good, his right testicle was normal in size, and although the suspicion of tubercular inflammation was suggested, there was nothing to confirm it. He was put to bed and simple treatment by suspension and poulticing was instituted, but the patient suffered intensely and could only be relieved by opiates. The temperature rose to between 102° and 103° F. Ten days later, all treatment having proved unavailing, the patient was anesthetized, and suspecting pus in the tunica vaginalis, I laid the latter open. A small quantity of pus exuded, together with layers of fibrin and small clots, which inclined me to the belief that I was dealing with an old hematocele. The wound was left open and dressed in the usual antiseptic manner. The operation only partially relieved the patient; he still complained of pain which again increased in intensity, and in spite of the administration of opium he suffered very much. The testicle was examined from time to time to see if any pus remained in the cavity of the tunica vaginalis, or if there were any local accumulations in the scrotum, but none could be found. The testicle proper continued to be intensely painful, exquisitely sensitive to manipulation, but no special point of pain or of fluctuation, or even of tension, could be ascertained. Accordingly, nine days later he was again anesthetized and the testicle removed. The visceral layer of the tunica vaginalis was very much thickened, and in making an incision through this between the epididymis and the body of the testicle was found an accumulation of pus shaped like a cone with its apex downward, accurately circumscribed and held in place by the thickened tissues.

The pathologist's report was as follows: "The vessels in the testicle and epididymus are dilated, and at numerous points red blood corpuscles have escaped and are extravasated through the inter-tubular connective tissue. Some of the seminiferous tubules contain red blood corpuscles. There are also numerous areas of round-celled infiltration, often coincident with the areas of extravasated blood corpuscles. The tunica vaginalis is thickened and covered by an inflammatory exudation, composed of fibrin and red and white blood corpuscles. In the sub-serous connective tissue there are small masses of blood pigment, evidently the result of previous hemorrhages. The anatomical diagnosis is acute inflammation of the tunica vaginalis, with hemorrhages old and recent, with secondary inflammatory areas in the testicle and epididymis."

It was evident, both from the macroscopic and microscopic appearances, that an inflammation of

[1] Read at the meeting of the New York State Medical Society, Albany, January 27, 1897.

some intensity was the origin of this man's suffering, and that the exudation upon the serous membrane had strengthened or fortified it to such a degree that pus between the testicle and epididymis could not escape. The pressure and presence of the pus produced such a degree of suffering that, in the absence of any means of locating it, I do not think any relief could have been obtained without removal of the entire organ.

The cause of this man's orchitis was not clear to me. It reminded me, however, of a case, which I reported some years ago, of a man who denied ever having had a urethritis. He came to me with an inguinal hernia, which I decided to operate on. The hernia was complicated by an undescended and inflamed testicle, which had to be removed. On severing the vas deferens there was a little spurt of pus, which, unfortunately, was lost, and no examination for gonococci could be made. Within twenty-four hours the patient developed an acute urethritis, which had evidently been latent until the operation. With this fact in mind, it may not be unreasonable to assume that the other patient also had a latent gonorrhea, which was excited into activity by his long walk, and which was responsible for the inflammatory foci in the epididymis and testicle.

To emphasize the point that in some instances no positive diagnosis can be made until an operative procedure is instituted, take the following case, which, apparently serious, proved to be very simple:

A man aged seventy-three. Up to a few weeks before coming under my observation the history was that of simple hydrocele, which had been tapped, and as he described it, a light, watery fluid had been drawn off. This procedure had been repeated a few times, whenever the increase in size of the scrotum interfered with locomotion, but latterly the fluid obtained had been bloody. Early in the history there had been no pain. Recently, however, the scrotum had become very dark in color, and had grown "hard," and pain had developed in the left testicle, running thence up into the groin. Two weeks before, an attempt had been made to tap it as on previous occasions but no fluid had been withdrawn. Pain persisted, the testicle increased in size, and the old gentleman became prostrated, and was obliged to take to his bed. He was then sent to me with a letter from his doctor, a gentleman of hospital training, with the statement that he suspected that malignant degeneration had taken place in the testicle.

His condition, as nearly as can be described in words, was as follows: There was no rise of temperature; he was pale, anemic, and so weak that it was with difficulty he walked into my office. His scrotum, the whole of it, was enormously enlarged—more than double its normal size, edematous, and of a purplish hue; the left half, particularly, was hard, with intervening soft areas, and very sensitive. Here and there it looked as if the tissues of the scrotum were infiltrated and would speedily break down. The right testicle could be distinguished, and was pushed upwards and outwards by the swelling of the left side. The left side of the scrotum was an indefinable mass, extremely sensitive on palpation, and no satisfactory examination could be made. The cord could be felt enlarged in the inguinal region, and was also sensitive. The tumor was not translucent, even to the direct rays of strong electric illumination. The history, to my mind, pointed more to some inflammatory process than to malignant disease, but it was impossible to make any definite diagnosis, and for a few days he was subjected to tentative treatment, without avail. Then he was placed under ether and a long incision made over the tumor. It was found that a sero-hemorrhagic exudation had taken place into the tissues of the scrotum, but no pus was detected. The tunica vaginalis was found to be much thickened, and filling its sac were several layers of a soft, fibrinous exudate and broken-down blood-clots. This adventitious material, together with a few calcareous plates, which were found on the parietal surface of the tunica, was thoroughly removed by a dissection which included portions of the serous membrane. The testicle itself was found crowded downward and backward by the exudate, but was normal, and was replaced within what was left of the sac. The wound was sutured, drained for two days, and healed without suppuration. There were no adverse symptoms, and the patient was discharged twelve days later.

As is evident, the operation not only cleared up the clinical features of this case and cured the patient, but threw light upon the etiology. Without doubt the whole process had been caused by the later attempts at tapping which had not only injured a vessel but had infected the tissues enough to set up the inflammatory hyperemia, without as yet producing pus.

In contrast with the case which I have just narrated consider this one:

A young man of thirty years whose general health had always been good, came under my observation in October, 1890. His history was very brief. In June and July of that year he had been under treatment for what was called "an enlarged testicle," for which no cause could be assigned. There was no history of traumatism and no antecedent urethritis. He remained under treatment for three weeks at a hospital, and was then discharged. As he had been under the observation of competent men the probability is that at that time there was no suspicion of the nature of the disease. He stated that after leaving the hospital the testicle increased in size, but it was not painful, and did not interfere with his general well-being. Of late he had observed that when irritated, as he described it, by undue exercise—a long walk, for example—it seemed to increase somewhat in size, but there was no spontaneous pain in it. On examination it was found that there was no discoloration of the scro-

tum. The tissues of the latter were normally movable and were not infiltrated. The whole testicle was uniformly enlarged to about three times the size of its fellow; it was distinctly pulpy on palpation, and pain could be elicited on the slightest pressure. It was not translucent. There was slight enlargement of the cord. There was no enlargement of the inguinal glands and no glandular enlargement could be made out by palpation of the abdomen.

The progressive increase in size of the testicle without pain and without signs of inflammation, and especially its uniform softness as contrasted with other pathological conditions (*e. g.*, syphilis, tubercle) led me to the conclusion that it was of malignant character and should be removed at once. Accordingly, the testicle was excised, the inguinal canal being laid freely open and the cord divided as high up as possible. The wound healed by first intention, although there were a few points of suppuration in the stitch-holes. The patient was discharged cured on the fourteenth day. The pathologist's report showed characteristic carcinoma of the epithelial variety.

I kept this patient under observation. In July of the following year he had an abdominal tumor develop which was located in the left hypochondrium, extending toward the ensiform cartilage. It was hard, smooth, painful, and dull on percussion. It was firmly attached, but could be displaced laterally outward, and not downwards.

Here, evidently, was a speedy relapse which an exploratory incision, made in the hope of removing the mass, proved to be in the kidney of that side, and in the abdominal glands. The recurrence in the abdominal glands and not in the inguinal ones was confirmation of a fact which was fully brought out in a discussion of this subject at the ninth annual meeting of the American Association of Genito-Urinary Surgeons, held at Niagara Falls in May, 1895.

The latter case is in strong contrast with the preceding one as to age, the appearances of the tumor, and as to the final result. In the old man, pain, persistent and severe, was a prominent factor. In the young one, there was no spontaneous pain, there was no discoloration of the scrotum, and the tumor was soft, whereas in the old man the tumor was hard, and its naked eye appearance might be termed decidedly "malignant." Yet in the case which appeared to be the most severe, the disease proved to be benign, while in the other it was rapidly fatal.

In corroboration of the fact that a case apparently benign may have elements of malignancy and demand radical methods, take the following:

A young man, twenty-three years of age, was brought to me with the following history: When about thirteen years of age he was struck by a base-ball on his left testicle, and four years later he fell astride a fence and bruised the same testicle. Following the first traumatism a moderate sized "lump" appeared at the bottom of the left testicle. It was not painful and never had been until two or three weeks before he came under observation, but it had grown slowly in size, and during the past year its growth had been more rapid than during the previous nine years. There was no history of an abnormal growth in any other member of his family. The patient, whose general health had always been good, gave no history of any urethral disease, but about a year before he came under my observation he had had a "sore" at the end of his penis, in regard to which there seemed to have been some doubt. At all events, it was treated by caustics and he had some form of internal treatment for four months. No symptoms referable to the sore followed. The right testicle was normal. At the base of the left testicle and attached to it by a pedicle, was a hard, firm tumor, insensitive on palpation; its circumference (the measure including the tissues of the scrotum which covered it) was 4¾ inches; the pedicle seemed to be a little over an inch in length and was exceedingly sensitive; it apparently sprang from the tunica albuginea, and had no relation to the epididymis.

The history of a slowly growing, painless, insensitive, and hard tumor, not a part of the testicle but springing from it, led me to the diagnosis of a fibroma, but the recent rapid increase in size and the accession of pain made me suspicious that it was undergoing some form of degeneration. Accordingly, I took him into the hospital with the intention of removing the tumor only and leaving the testis, if possible. Upon cutting down upon the tumor, the latter was found to spring from the posterior aspect of the body of the testicle and from the cord. Its surface was slightly irregular or nodular, and its pedicle seemed well supplied with vessels. Appreciating that the growth was one which might easily degenerate into some form of malignancy, I decided that it was best for the patient to remove the testicle also. This was accordingly done. The growth was subjected to the pathologist, who reported: "It is a pedunculated tumor, one inch in diameter, very firm, and white on section. Microscopic examination shows it to be a fibroma. *The tissue has in places more cells than in ordinary connective tissue, but not enough to put it among the sarcomata.* The testicle is normal."

This statement of the pathologist taken in connection with the recent clinical history of the patient, and with what is known of the pathological tendencies of the testis, seem to me to warrant the radical treatment which was adopted rather than to have the patient take the risk of further and dangerous involvement.

The Ventilation of Passenger Cars.—It is estimated that to keep a coach containing sixty persons fully supplied with pure air the atmosphere would have to be changed every eighty seconds, or something like forty-five times each hour. It is found practically impossible to raise air from zero to a comfortable temperature with such rapidity, and in consequence a compromise between bad air and low temperature is essential in cold weather.

THE TREATMENT OF DIPHTHERIA WITH ANTITOXIN.[1]

BY JOSEPH H. LOPEZ, M.D.,
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OF the many recent discoveries, none has provoked more controversy than diphtheria antitoxin, in which respect it bears a strong resemblance to vaccination. Able men have written pro and con on the subject, both sides being governed by honesty of purpose, but each, as is human, viewing the subject from his own standpoint. Men are broader and much more liberal in their views to-day than they were in olden times, which tends to give both length and breadth to a controversy. In the days of Jenner, prominent men wrote in fierce condemnation of what they termed the vagaries of vaccination, and were in turn the recipients of congratulatory letters from others equally as prominent as themselves. In face of all this, Jennerism has stood as the triumph of a century. In the present discussion, men of undoubted ability are arrayed against antitoxin, but their number is small. In striking contrast with these is a class more numerous, who evince by their writings total ignorance of the subject, and are guided solely by their prejudices. In an age so liberal as this, an open discussion serves to bring to the surface the true merits of a remedy, and facilitates in giving it the proper place in therapeutics.

Through the courtesy of the H. K. Mulford Company, I was permitted to visit their biological laboratory and witness the process by which diphtheria antitoxin is secured. Of this privilege I heartily availed myself, in order to obtain the data for this paper. To understand how antitoxin is produced, it is necessary to have a clear conception of five terms. These are: *germs*, *toxins*, *serum*, *antitoxin*, and *units*. They must be clearly distinguished, one from the other. Antitoxin (upon which alone depends the efficacy of the remedy) is one thing, and serum (its vehicle or menstruum) is another. Antitoxin does not exist in any appreciable measure in the blood of the horse until it receives the treatment which will be described in this connection.

The germ of diphtheria is the specific cause of the disease, while the toxin is a complex poison produced by the germs. If germs of diphtheria are injected into a susceptible animal, they will produce diphtheria; if toxins are injected, they will cause acute poisoning. In the laboratory the toxins of diphtheria are separated from the germs by a very delicate filtering process. The toxins only are used in treating the horse that is to yield the antitoxin. It will thus be observed that the injections do not produce diphtheria in the horse. They could not do this, for the germ which is the sole cause of diphtheria was first removed. The toxins separated by the process of filtering must conform to a certain high standard of virulence or be rejected. This standard is obtained by experimenting on guinea-pigs. It must be so toxic that an injection of three-tenths to 1½ minims will prove fatal within thirty-six hours. This quantity is called the minimum fatal dose. One standard or immunizing unit indicates that potency of a given quantity of antitoxic serum which will neutralize ten times the minimum fatal dose of standard toxin in a guinea-pig.

If a moderately large dose of toxin were injected for the first time into a horse, it would sicken and die. The initial dose, however, is made very small, only 10 or 15 minims being given. This dose is gradually increased and repeated at intervals of six or eight days, for about three months. While the horse is found to fret considerably after the first dose, at the close of the period of treatment, when a trial bleeding is made, he will receive an injection more than three hundred times as large as the first one with impunity. During this treatment nature's antidote against the poison injected is poured into the blood in such quantities as to make the serum of this blood a remedy *par excellence* against the same poison in the system of the victim of diphtheria. If the trial bleeding shows the presence of sufficiently large quantities of antitoxin, the animal is freely bled and the serum separated. When this is carefully preserved against putrefaction and other bacterial contamination, and the unit strength ascertained, the remedy is ready for use.

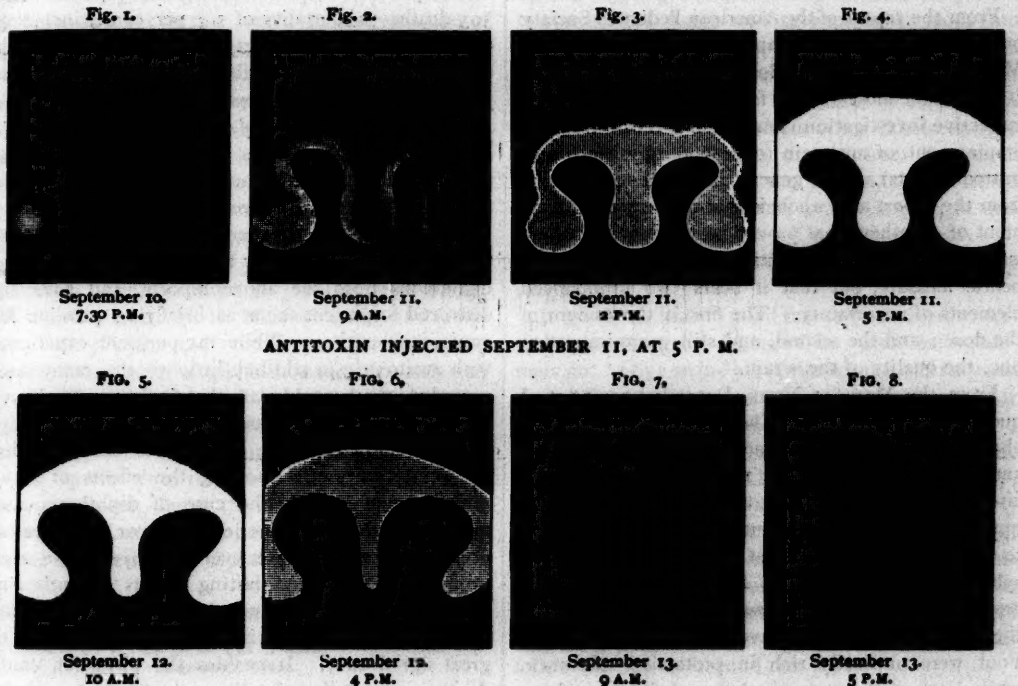
In the treatment of diphtheria the most important step is to make an early diagnosis, and the next is to give antitoxin in sufficiently large doses as soon as the diagnosis is made. You are all familiar with the characteristics of typical diphtheria. The whitish-gray, leather-like membrane, superimposed apparently upon the mucous membrane, attended by fetor, and tending to become darker as it spreads and the malady progresses, can tell but one story. My observation is that the more rapidly the membrane spreads, the more malignant is the type of diphtheria, and the greater the danger from early toxemia. To illustrate the process of invasion and the physiological effects of antitoxin, I beg to cite a case of more than usual interest as regards the rapid extension of the membrane (See illustration), as well as the prompt and decisive action of antitoxin.

The patient, a girl of five years of age, was brought to my office September 10th, at 7.30 P.M. Examination of the throat revealed a small white spot on the right tonsil (Fig. 1). The following morning

[1] Read before the Associated Physicians and Surgeons of the Charity Hospital, Philadelphia, January 2, 1897.

this white patch had extended, forming a continuous white line from the right tonsil across and around the uvula to the left tonsil (Fig. 2). The diagnosis was evident. I subsequently learned that another child, a boy of seven years and a brother of my little patient, had died from diphtheria after three days' illness, and was buried the day I first saw the little girl. At 5 P.M. I injected 1000 units of Mulford's Potent Antitoxin; at 10 A.M. of the following day the grayish-white line was displaced by a red line (Fig. 5), the red line of demarcation indicating that the healing, or neutralizing, effect of the remedy had commenced. When this red line was once gained, the membrane disappeared as rapidly as it had appeared. At 5 P.M. of the same day fully one-third had disappeared, while after twenty-four hours, scarcely a trace remained. All the symptoms began to ameliorate within twelve hours after giving the injection. Only one injection was found necessary. The supplementary treatment was that which I generally employ. This consists of calomel in repeated doses till the alimentary tract is cleared, sprays of peroxid of hydrogen, stimulants, and general tonics, according to the special indications of the case.

In the laboratory the curative dose required to save a guinea-pig is determined by mathematics. Both the quantity and the virulence of the diphtheria toxin floating in the blood current of the animals are accurately known. From these factors the bacteriologist readily determines the number of immunizing units needed to save the animal. In clinical practice the physician has no power to determine either the amount or the virulence of the toxin absorbed into the system. He has not even the power to make an approximate estimate. All he can know is that, all else being equal, the more extensive the local lesion the more profound will be the degree of toxemia resulting and the earlier will fatal toxemia appear. Because of this it follows that the initial dose of antitoxin should be efficient. Antitoxin is an innocuous therapeutic agent. Should the dose be more than is absolutely needed, no harm will follow. The case will be fully met and but one injection be needed; on the other hand, if the dose is inadequate, the unneutralized toxins may go on to produce fatal results. It is not well to rely solely upon antitoxin, since there are always indications for treatment which can only be met by other remedies. In two of my most malignant cases, however, I had to rely entirely on the antitoxin, as the stomach was too irritable to bear either food or medicine. Though the patients (three and five years of age) were much depressed by the disease I injected in each case in two doses, with an



DIPHTHERIA IN A CHILD AGED FIVE YEARS, SHOWING RAPID GROWTH OF MEMBRANE ON TONSILS, UVULA, AND SOFT PALATE, AND ITS SUBSEQUENT RAPID DISAPPEARANCE UNDER THE USE OF ANTITOXIN.

interval of twelve hours, 2500 units of antitoxin. Besides this I used only the spray of peroxid of hydrogen, until tonics and stimulants could be retained. The recovery was complete in both cases and without interruption, but less rapid than when the antitoxin was administered in sufficient doses in the early stages of the disease. In the early stage from 600 to 1000 units is usually sufficient, but when seen in an advanced stage 2000 units should be injected at once, and the dose repeated in ten or twelve hours, if the progress of the disease is not arrested. The danger from diphtheria in advanced stages is great, but there is no danger from an overdose of antitoxin if a reliable preparation is used.

From the report of the American Pediatric Society on the use of diphtheria-antitoxin, published in the MEDICAL NEWS July 4, 1896, I take the following: "One of the most striking features, developed by the collective investigation committee, is the widespread employment of antitoxin (over 600 physicians submitted reports). The general inference to be drawn from the report as a whole is that the antitoxin treatment of diphtheria has proved so efficient that there is no longer any doubt of its permanency as a therapeutic measure, but that it bears two pronounced elements of uncertainty. The first is the amount of the dose; and the second, and still more important one, the quality of the serum."

From the MEDICAL NEWS, December 19, 1896, I quote the following: "The MEDICAL NEWS purchased nineteen different samples of serum (foreign and American) in the open market, in six different cities of the Union. After the labels had been removed and numbers substituted, they were submitted to Professor A. C. Abbott of the University of Pennsylvania for examination." From Professor Abbott's report I condense the following: "The majority of the samples exhibited the average required strength. Four were unusually rich in protective substance, while in three there was a relative deficiency of antitoxic properties. Some of the samples proved to be of unusual strength, while others were shown to be so poor in antitoxin as to demonstrate their comparative uselessness for therapeutic purposes. In some instances there was great discrepancy in the actual strength and in the advertised strength. Certain of the samples from the same manufacturer, purchased in different markets, at the same and different dates, showed a wide variation; other samples retained their strength absolutely from three to twelve months, while some contained only about two-thirds of their original strength at the end of three or six months."

Thus we have an explanation of the conflicting results published of the antitoxin treatment, apart from the question of *time*, *quantity*, and *method* of administration.

The Health Bulletin of the Tennessee State Board of Health, commenting on the investigation of the American Pediatric Society, says: "The report affords very strong testimony in favor of the treatment of diphtheria with antitoxin. The grand total gives 5794 cases, with 713 deaths—a mortality of 12.3 per cent., including every case returned; but excluding 218 cases that reports show were moribund at the time of the injection, or died within twenty-four hours of the first injection, there remained 5576 cases, with a mortality of 8.8 per cent. Of 4120 cases injected during the first three days, there were 303 deaths—a mortality of 7.3 per cent., including every case reported; but if from these we deduct the cases which were moribund at the time of the injection or died within twenty-four hours, we have 4013 cases with a mortality of 4.8 per cent. Behring's original claim that if cases were injected on the first or second day that the mortality would not be more than five per cent., is more than substantiated."

In conclusion, permit me to say that, to save your time, I have selected only the prominent points and deductions from the above reports, and have endeavored to present them as briefly as possible for your consideration. While my personal experience with antitoxin can add but little to the many cases recorded, yet I would state that for some years I have been associated with three institutions, containing in all about 800 children. I have thus been afforded the opportunity of witnessing the effects of many remedies suggested for the cure of diphtheria, and must say that, in an experience of over twenty years, no other remedy I have ever employed gave such prompt, marked, and lasting results as antitoxin. The characteristic red line which makes its appearance after the successful injection of antitoxin is of great significance. It enables the physician confidently to assert that the disease is checked, and the poison which threatened life neutralized.

Such has been my experience with antitoxin, though limited to thirty-seven cases, with perhaps more than double that number of immunizing doses administered. Of the former, all recovered excepting three, which occurred in one of the asylums, in cachectic children, closely following a grave type of measles. These did not seem to be affected by the antitoxin, but rapidly progressed to a fatal termination. In the other cases, a general amelioration of all the symptoms was noted early, and the progress to recovery was both speedy and complete. With few exceptions, but one dose of antitoxin was required. Of those immunized, not one contracted diphtheria. As I invariably resort to immunization,

it has been my fortune not to have a second case of diphtheria in the same family since using antitoxin. In one instance, after drawing the usual curative dose into the syringe, I found a small quantity of antitoxin (about 250 units) remaining in the bottle. This was enough to immunize the only other child in the family. After carefully sterilizing my syringe, I injected it into the little fellow, with the happiest results. In six cases, the respiration was so greatly impeded when I first saw them that intubation was necessary to prolong life and give the antitoxin time to act. Four of the six cases recovered.

In view of the results of the examination of the antitoxin, as published by the MEDICAL NEWS, the physician can not be too careful in the selection of his antitoxin. When one physician requires from two to ten injections to do what others can accomplish with one or two, the fault must be with the product he is using. Whilst it would have been of great value had the MEDICAL NEWS published names with the results of its investigation, we must infer that there were good reasons for withholding them. We can therefore only express our appreciation of the good work accomplished. My own experience is restricted to American antitoxin. I have used Parke, Davis & Co.'s, and H. K. Mulford Co.'s, and found them both efficient and reliable, and in view of the results of the bacteriologic examination as conducted by the MEDICAL NEWS, I have no inclination to "grope in the dark" by making a change. The latter house has introduced a highly concentrated serum which I prefer since it removes all objections to the serum treatment, due to the large quantity of serum to be injected, and is in my opinion, the greatest improvement yet made in diphtheria antitoxic serum.

DIASTASE IN THERAPEUTICS.[1]

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THE sprouting of a seed was considered, until quite recent times, a great mystery; not until diastase was discovered could we properly understand why a seed after being placed in a moist soil began to develop into a plant after having lain dormant perhaps for years. Under proper conditions, the life endowed germ is no longer a sleeping unknown quantity, but is an active principle, and the process of development begins.

The sprouting of seed is a very interesting subject for scientific study—this awakening of the germ life, by the influence of heat and moisture, as is the action of diastase in converting the starch of the seed into maltose, which afterwards becomes fibrous or cellular tissue. We will not go into a discussion here in reference to the secretion by the plant of fluids which, acting through the delicate roots, absorb and utilize the soil elements; of the important work done by the leaves in taking carbon from the atmosphere; and by these and other processes completing the growth of the plant and eventually reproducing the seed to continue the life of the species indefinitely.

Let us now leave the plant and refer to the important factor in the growth and development of animal life—the ptyalin of the saliva, a product analogous in many respects to diastase. Just as nature places diastase in the grain to produce the changes leading up to a higher growth, so she gives animals ptyalin to convert the starch and perhaps other foods into assimilable material for nourishment, for heat, and a reserve supply of fat. I use the words nourishment, heat, and fat, advisedly. The starch so converted is nourishment, and it is the basis of our caloric energy. Our supply of fat comes mainly from the starch changed into maltose by the ptyalin, supplemented by the pancreatic secretions, and it is changed into oil later on in the process. This oil is not only utilized for heat but stored in the tissues as a reserve supply.

It is well to bear in mind that few carnivorous animals take on a great degree of fat; grain eating animals do. Give swine all of the fat and oils they can eat, and they will not gain in weight half as quickly as when fed on grain alone.

The function of ptyalin is to convert starch into dextrin and maltose, this being the preliminary step, and it goes on in the normal stomach for from thirty to forty minutes after the close of an ordinary meal, when the acid peptic digestion stops the diastasic process. The duodenum holding the pancreatic and other secretions takes up the partially changed starch and completes the conversion. We need not follow the process beyond this point.

It has long been observed that we do not get altogether satisfactory results in the treatment of amylaceous indigestion with pancreatic extracts. This is probably due to the fact that the amylopsin of the pancreatic juice and the various other duodenal enzymes are intended more for completing and finishing the changes already begun by ptyalin before the peptic digestion supervenes, and are not adapted for this preliminary conversion in the stomach. In other words, they are not suitable for beginning the conversion in the food mass as found in the stomach—acting, we might say, on the mass later when it is an acid body, during the time it is being changed from an acid to an alkaline reaction, instead of on the alkaline or neutral mass when it is being changed into an acid mass. We see, therefore, that while ptyalin and

[1] Read before the New York Medico-Surgical Society, January 4, 1897.

amylopsin are practically identical in their action on starches, nature intends them to act under different conditions and at different periods of the digestive process. Therefore, we should not give pancreatic extracts with the expectation that they will render desirable service in the stomach, but should rely either upon increasing the supply of ptyalin by slowly masticating the food, or by giving a ferment having similar properties to ptyalin; this we have in diastase.

From the time of the discovery of diastase in malt until quite recently, many attempts have been made to produce it in an isolated form economically enough to be used freely in medicine, without having to give it in the form of the semi-solid malt extracts which has been the only reliable form of it readily obtainable by the profession, as the liquid malt extracts do not contain an appreciable amount of diastase.[1] The disadvantage in its use in malt extracts is that we have to give a large bulk of the extract to get a very small quantity of diastase; then too, the extract contains fermentable sugars and extractive matters which may not only be of no value, but may give rise to fermentation in the stomach or intestinal tract.

So far the only person who has succeeded in producing an isolated diastase economically and on a large scale, is Jokichi Takamine, the Japanese chemist, (*London Lancet*, May 25, 1896). This investigator received his scientific education at the Glasgow University. He devoted some years to the study of malting and the production of diastase and other ferments, and upon his return to Tokio was fortunate enough to find that Eurotium oryzæ was what he desired. The process he finally perfected is in brief as follows: The seed of the Eurotium is sown on moistened and sterilized wheat bran. The growth is rapid, and after the plant has reached maturity he calls the bran with the growth on it "Taka-Koji." Upon examining this growth under the microscope it is found that the roots of the Eurotium which have penetrated the bran are covered with crystals of pure diastase. These diastase crystals have the property of converting the starch of the bran for the nourishment of the plant. Takamine named the diastase so produced, Taka-diastase. In preparing this diastase for use in medicine it is necessary to get rid of the spore. This is done by percolating the Taka-Koji with water, and adding to this solution of diastase, alcohol, when the diastase is precipitated and the activity of the spores destroyed. It is then a simple matter to further purify the diastase and preserve it in a dry powdered form indefinitely.

This diastase, owing I presume to it being an isolated substance, acts much quicker than the diastase found in malt extracts. It will convert 100 times its weight of starch in ten minutes under proper conditions; if the process is continued for three hours, 1500 times its weight. It is therefore evident that its amylolytic-converting power is quite marked, and the theoretical position that it would prove of value in the treatment of amylaceous indigestion has been verified by careful observers many times over.

Professor Leo, of Bonn, claims that this diastase exerts its action in a higher degree of acidity than was first claimed by those of us who had experimented with it, and that it is, therefore, superior to ptyalin in its starch-converting power. He has employed it with benefit in cases of deficient salivary secretion, and also in hyperacidity of the stomach.

Dr. W. S. Christopher, of Chicago (*Therapeutic Gazette*, March, 1896), holds that flatulence is due to microörganisms which attack unchanged starch and give rise to fermentation, and that it is therefore important in these cases to pre-digest the starch in the stomach, and the more complete this process, the less food there is for the microörganisms to act upon in the duodenum. He finds that the administration of diastase in these cases gives satisfactory results.

Dr. R. W. Wilcox, of New York, has given very close attention to the therapeutics of this question, as shown by two papers he read some months ago, one before the New York State Medical Society, January, 1896, and one before the New York Academy of Medicine, February 18, 1896, both papers being published in the MEDICAL NEWS.

Other favorable clinical reports which have attracted my attention, which may be mentioned here, were published in the *Journal of the American Medical Association* for August 15, 1896, by Dr. T. H. Allen; in the *Medical Age* for July 25, 1896, by Dr. F. Spencer Halsey, and in the *Therapeutic Gazette* for September 15, 1896, by Dr. Wm. A. Walker.

In the practice of some friends, who have reported the matter to me for elucidation, this form of diastase seems to have other properties than its action on starch. In one notable case in which pepsin and other methods of treatment failed to give any benefit, although every symptom and test seemed to indicate that it was an undoubted case of albuminous indigestion, the result was not only palliative but curative. I have endeavored to have this matter settled by laboratory experiments, but so far the results have not been entirely conclusive, so any theory on this question for the present must be based mainly upon clinical evidence. This diastase does, as was shown by the experiments referred to, *disintegrate* albumens, but the proteolytic action *apparently* stops short of

[1] *Boston Medical and Surgical Journal*, December 31, 1896, p. 669.

the production of albumoses and peptones. As to what takes place in the intestinal tract of course we cannot yet say. It is altogether probable that the benefit in these cases is due to the promptness with which the first period of digestion is carried on and the conversion, instead of the fermentation, of the starchy foods, leaving the second process, the acid peptic digestion, to go on normally without being interfered with by deleterious products; and the partial disintegration above referred to doubtless promotes the activity of the gastric juice by giving it freer access to the particles of albumen.[1]

We should always bear in mind that we have from thirty to forty minutes after the close of an ordinary meal in which the action of ptyalin or diastase will continue before the acidity of the stomach contents reaches the point at which such converting power is impaired or destroyed. The proper theory for the administration of diastase is that it supplements the ptyalin of the saliva, and the more thorough the preliminary digestion in the stomach, the less work there is to be done in the duodenum. The formerly prevalent theory that pancreatic extracts and diastase ought in some mysterious way to find their way through the stomach into the duodenum, and there begin their work, is too absurd to be entertained. (See Dr. Walker's article above referred to.) I am indebted to Dr. Henry Dwight Chapin for information in this connection (*N. Y. Medical Journal*, September 16, 1893), the results of some elaborate experiments which he had made in the Post-Graduate Laboratory in 1893. The experiments were made with a product containing diastase; the stomach was washed out, and after the subject had been properly fed the diastase was administered in certain cases and omitted in others. The report made to Dr. Chapin by the chemist in charge of the work was, that, when the stomach was emptied forty minutes after the administration, the percentage of food remaining in the stomach at this time averaged, when diastase was not given, 52.02 per cent.; with diastase, 29.2 per cent. This showed very conclusively the action of the diastase in the stomach. An analysis of the solid food remaining in the stomach showed that when diastase had not been administered 7.02 per cent. was undissolved; when it was given, only 3.45 per cent.

Experiments with diastase have not up to this time been as satisfactorily conducted as those made with pepsin, for the reason that diastase is a sensitive body, and the value of any laboratory or test-tube experiments is apt to be contradictory, unless proper precautions are taken as to the degree of heat used, and because the various brands of starch found in the market vary in reaction and in their sensible properties. It is to be hoped that we will soon have definite tables in use for this work, so that all experiments being made by a uniform standard the results can be more intelligently compared and studied.

I might add in conclusion that the therapeutic properties of diastase have not yet been as thoroughly investigated as could be desired. A good deal of careful work is now being done by investigators in this and other countries, and I am confident that the literature of the subject will be enriched very greatly in the near future.

So far little has been done with diastase in practical medicine beyond its use in typical cases of amylaceous indigestion. What we may expect from its employment in partially converting the starch of barley water for infant feeding remains yet to be determined, but I am very hopeful of its use in such cases. The fact of the casein of cow's milk being so much more dense and liable to form tough curds than human milk, has led me to hope that if we partially convert the starch of the barley water, it will become not only a mechanical diluent for milk, but a readily absorbable food as well, which will nourish and not give rise to fermentation and flatulence.[1]

Some time since I witnessed several experiments in bread-making made by Mr. C. Von Egloffstein, then of Yonkers, now of Brooklyn, N. Y., to determine the value of diastase in rendering bread more soluble. His conclusions were that the soluble matter in ordinary bread in water at a temperature of 100° F. represented at the end of an hour fifteen per cent., whereas when a proper amount of a product containing diastase was added to the bread before baking the soluble matter under the same conditions was forty per cent.

It is more than probable that diastase will play an important part in the therapeutics of the future.

ABSTRACT OF DISCUSSION.

Dr. W. L. Stowell: I wish to express my pleasure at listening to this paper. For the last five or six years I have been greatly interested in the various forms of indigestion and the remedies supposed to overcome them. Most of the diseases we are called

[1] Since this paper was written, I have been informed by Mr. F. A. Thompson, a skilful chemist, who has given close attention to this subject and performed a number of elaborate experiments with diastase and other digestive ferments, that he has found that Taka-diastase does undoubtedly not only disintegrate albumens but produces albumoses and peptones as well. This is an important and interesting discovery, and perhaps confirms the work of the German chemist Bezanes, who found that in producing diastase from malt, a by-product, which he named peptase, was formed, which acts on albumen. It is therefore evident that as there is formed in grain a product to change the albumen of the grain as well as the starch-converting ferment, Eurotium has a ferment similar to peptase for converting vegetable albumen for its nourishment. The peptase produced in malting is extremely slow in its action, due perhaps to its being interfered with by the thick gummy malt products.

[1] See Dr. Chapin's remarks in the discussion following.

upon to treat, if not due to direct infection, are due to some difficulty in the digestive tract. These difficulties are either fermentation from pathogenic organisms or deficiency of digestive ferments. Antiseptics, while they prevent the formation and development of germs, and so prevent indigestion to some extent, do not assist the digestion of food in a weak digestive tract. Therefore we need to help the patient by first selecting suitable food, and secondly, by helping him to digest what food is taken in. Patients who complain of bloating and pressure an hour or two after meals, and who complain also of constipation most of the time, can, as a rule, be greatly helped by diastase alone. If this does not work well alone, it will do better when combined with salol, or some similar antiseptic. The more I have used these remedies the better I have been pleased with them.

I recall an interesting case of vomiting during pregnancy. The patient suffered from inability to digest both proteids and starches, but particularly the latter. She suffered very greatly from the resulting distension, but this was overcome by the administration of Taka-diastase. After awhile the stomach rebelled, but then, by washing the stomach, it became possible to return to proteids. One or two patients have come to me from a distance suffering from an aggravated form of starch indigestion, and these have done exceedingly well upon diastase. One of them improved with diastase alone; the other did better when it was combined with salol. Our trouble with the digestive ferments is that we do not pay sufficient attention to the different forms of indigestion, usually preferring to depend chiefly upon a routine dose of rhubarb and soda.

Dr. William A. Walker: I have had the most satisfaction from the use of the Taka-diastase. One advantage is that it is tasteless. I prefer to give it in capsules, because if administered in the dry form the patient usually complains of a dryness of the throat.

The question is often asked: What is the advantage of giving the diastase? It has been argued, principally on theoretical grounds, that the giving of an artificial digestive agent cannot produce a cure, but that it simply does a certain amount of work which the stomach should perform. I think Dr. Fothergill spoke of this practice as "pauperizing the stomach." This may be true in long-standing cases, but it certainly does not apply to the more acute cases. Most of its good effect is produced by supplementing the digestive ferments of the stomach. I have found, in certain cases, that in washing out the stomach a portion of the food ingested the previous day was present. I have then given the diastase, and have found, on subsequent washings, that a good portion of the food had been digested. The cure is effected, I suppose, in this way. Most of the trouble in dyspeptics is probably due to the leaving over of some undigested food from one meal to another. The diastase prevents this.

Dr. George Tucker Harrison: This is a subject in which I have taken a great interest for some time. Like most clinical observers, I often meet with these cases of indigestion, which in former times we erroneously looked upon as due to proteid instead of to amylaceous indigestion. I therefore hail with pleasure, as a great addition to our therapeutical resources, this new diastase—a substance which certainly appears to be worthy of extended and careful trial.

Since my attention was called to this new diastase, I have used it considerably, and have been much gratified with the results of my observations. One case comes to my mind. A lady of fifty-five years had taxed my therapeutic resources to the utmost. I had used, among other things, a preparation of nux vomica, pancreatin, and fel bovis inspissatum. This utterly failed. I began then the use of Taka-diastase, and the result was truly brilliant. The woman suffered from the usual symptoms of intestinal indigestion; flatulence, colicky pains after eating, mental depression, insomnia, etc. In other cases I have met with equally good success.

Dr. Henry Dwight Chapin: There are two well-known methods of acting on the casein of cow's milk for infants, *vis.*: (1) the mechanical, and (2) the physiological. The mechanical method consists in adding some diluent, such as barley water, or the old "flour ball." I think that, on the whole, we get better results by mechanical means than by peptonizing the milk. When the method of peptonizing milk was first brought out, most of us thought that the problem of infant feeding had been largely solved. I tried the method with much enthusiasm, yet I found that the simple peptonizing of milk, did not, on the whole, give very good results. In some difficult cases it certainly does succeed, but this has not been the rule in my experience.

This has led me to go back to the old method of attenuating the milk by the addition of cereals. We all know that young infants cannot digest much starch, although they can digest some by means of the mouth secretions and the secretion of the intestinal mucous membrane. I made a series of experiments at the laboratory and at the bedside regarding the action of diastase on barley. I think we succeeded in this way in getting the good effect of the attenuating qualities of the barley, and at the same time, in reducing to a minimum the bad effects of the starch. Clinically, this method gives good results in

very many cases. The process is not a difficult one, and this, in itself, is a recommendation for the method, for in infant feeding it is highly important that the rules for the preparation of the food shall not be complex. Even skilled nurses often make mistakes in the process of peptonizing milk.

Dr. Morris Manges: My own experience strongly corroborates that of others as to the value of diastase in infant feeding. How it acts, I do not know, but I know that it does act. With children who do not thrive on breast milk, or substitutes for it, I can say that the addition of Taka-diastase has given me uniformly good results. This is a simple clinical fact.

I believe the use of preparations of diastase has been of service in one way particularly, *i. e.*, in calling our attention to the importance of the saliva in digestion. We had almost lost sight of its value, notwithstanding the fact that it is secreted in such large quantities. We must admit that so far as experimental work has added to our knowledge, we are still much in the dark regarding this important fluid. Just to what substance in the saliva the action on the starch is due, aside from the ptyalin, we do not know. Certainly it is not the ptyalin alone. The experiments of Jawein of Vienna, and of others, have shown that the ptyalin was lessened in certain acute infectious diseases, diabetes, and in renal and cardiac diseases; but strange to say, it was not at all lessened in tuberculosis. On the other hand, experiments by Friedenwald have shown that saliva can be boiled and the ptyalin thus killed, and yet the saliva will have a beneficial action in promoting starch digestion. It is evident, therefore, that other constituents besides ptyalin are at work.

Now, by giving Taka-diastase, can we really replace the saliva? That a ferment is, after all, not the original digestive fluid is a point which is very often lost sight of. Every single digestive juice shows us that there is something more than the ferment which is active. Just what important *rôle* is played by the carbonates, and by the nascent oxygen in the mouth, is not yet known.

Dr. William Henry Porter: There is one idea which is very prevalent in connection with starch, and which I think is a very erroneous one; and that is, that starch is a fat-producing element *per se*. I do not believe the animal organism ever converted starch into fat. If what the chemists say is true, that statement is a correct one. They say that when you commence to split up the starch compounds in the animal organism, they tend to become less complex, and that synthesis does not occur in the animal organism. Therefore, I believe we must give up the idea that fat was ever made out of starch. The only reason for that belief was an experiment made many years ago, in which two pigs were taken from one litter, both pigs being of about the same weight. Pig No. 1 was cut up and a quantitative estimate made of the fat. Pig No. 2 was fed on starch, and nothing else for a week or ten days. It was then killed, and a quantitative analysis showed a little more fat than in Pig No. 1. Consequently, the statement has been handed down for years that starch is converted into fat. I believe that all the fat we get in the animal economy comes from the katabolic destruction of proteid bodies, and I think we have pretty good clinical evidence of that. Were we to cut off every bit of starch and use simply proteids, sugar, and fat, these people, in the absence of starch, will progressively increase in weight. This comes, I believe, from a better utilization of the proteid elements, and not of the starch and fats. I believe that the fats and the starches are simply heat producing elements. A proper adjustment of the starches and fats is necessary, and when we cut off the starches, I believe we must substitute a little alcohol to generate the heat in about the same proportion as would be generated if we used the starch. A certain number of grams of starch are capable, for instance, of producing a certain amount of heat. If we deprive the system of that amount of starch, we must get that equivalent of heat out of alcohol.

If we consider many of these numerous little points I think we can very satisfactorily manage these cases of indigestion. Personally, I do not like the terms "albuminous," or "amylaceous," or "fatty" indigestion. I think the difficulty is either a gastric one or an intestinal one, and, therefore, in my opinion, these are the only two kinds of indigestion that we should consider from a clinical standpoint. The sooner we come to this simple method of considering the subject, the quicker we shall arrive at a more rational basis of treatment.

Dr. Charles Henry Brown: We have heard to-night regarding the use of diastase in the feeding of infants. Practically, it aids in the digestion of amylaceous substances. I have used for years some form of diastase in the artificial feeding of infants, from birth until they are able to take food independently of the bottle, and I think it is a very great aid to us in the frequent but puzzling idiosyncrasies of infantile indigestion. The question Dr. Porter has raised as to whether starch alone makes fat or flesh is not one for the discussion—it is rather the chemistry of the action of diastase, which undoubtedly produces a certain amount of flesh. If we give pure alcohol, we do not see it; if we give malt, we do see it. People at the time of life when the heat-producing mechanism is most active, put on flesh. A certain force produces this flesh and a storing up of fats.

In Taka-diastase I think we have a better preparation for treating certain forms of indigestion in adults than any other. It is a powder, and the diastase is measurable. The addition of alcohol interferes seriously with the digestive action of diastase. All of us know that malts which contain a large quantity of alcohol often increase the distress of dyspeptics. There can be no question that Taka-diastase is a remedy which we can use either internally, or in pre-digesting food. We can also use it in aiding nutrition. Undoubtedly, the use of diastase increases nutrition, probably by stimulating the proteids and increasing heat-production by its chemical action on starch. I have found that delicate infants, when given Taka-diastase in proper quantities, will show the results of this stimulant action, as well as delicate adults. When given symtomatically, it relieves the distress experienced in the various forms of amylaceous dyspepsia. This seems to me to cover the whole subject, so far as it is at present known.

Dr. Grover C. Arnold: What are the maximum and minimum doses of Taka-diastase for adults and infants?

Dr. Fite: In experiments at the laboratory, it seemed that one grain converted 1500 grains of starch in three hours, 100 grains in ten minutes. After extended observation it was determined that 2½ grains, given during a meal, was an average dose for an adult. Some physicians have used five grains at a dose, but this has appeared to cause too rapid a conversion of the starch. It seems that the doses for infants are proportionately larger, *i.e.*, one grain for a child of two years.

Dr. John Blake White: I should like to speak with reference to the practical aspect of the subject. Theory is beautiful indeed, and is most fascinating, but actual results, and the practical side are, after all, more important. I cannot discuss chemistry with Dr. Porter, but I can speak of the results obtained in practice. These substances certainly do produce fat. Whether this can occur from the chemist's standpoint, or not, I cannot say, but the fact remains.

I desire to add my testimony to the value of assisting faulty digestion by the means that have been discussed here this evening. My experience with Taka-diastase, and other digestive ferments, tends to confirm the position taken by the essayist. I have always looked upon my cases from a purely practical point of view, endeavoring to ascertain what was really at fault, and then remedying this. I endeavor to regulate the diet. In cases where the indigestion appears to be due to the defective digestion of starchy matter, we can resort with advantage to the use of preparations of diastase. The weight of authority certainly favors such a view.

CLINICAL MEMORANDA.

A CASE OF AGALACTIA.

By J. IVES EDGERTON, M.D.,
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AGALACTIA, or the complete absence of milk secretion in the puerperal woman, is very unusual. Norris, in the "American Text-Book of Obstetrics," says: "So rare is this affection that its existence has frequently been doubted. Usually there is only a deficiency, which may occur at the beginning, and continue through the whole period of lactation, or, more commonly, the secretion, at first sufficient, gradually diminishes in amount, or, from some intercurrent affection, suddenly disappears. The secretion of an abnormally small amount of milk may be due to an anomaly in the formation of the mammary glands, either congenital or acquired from faulty clothing compressing the glands. It is also observed in the very feeble, in women of advanced age, after premature births or still-births, or in women who carry an excessive amount of adipose tissue. Temporary diminution or disappearance of the milk occurs when there is high fever, and when inflammation of the breast is present."

The following case occurred in the service of Dr. J. J. Hull, through whose courtesy I am enabled to report it:

Mrs. E. W., aged twenty-five, born in England; primipara. Was admitted to the hospital October 26, 1896. The history she gave was as follows: Before puberty she had had whooping-cough, scarlet fever and diphtheria. Five years ago she had pneumonia; never any other sickness, except occasional attacks of muscular rheumatism. She first menstruated at the age of twelve years, her periods recurring regularly every four weeks, and lasting for six days; flow was considerable and painful for the first two days. Her last menstruation was from January 14 to 19, 1896, and she "felt life" in July. She had some vomiting at irregular periods throughout her pregnancy, but stated that she had been subject to bilious attack since childhood. She had never had a miscarriage. During February she had taken frequent doses of pennyroyal, as also some other abortifacient, but with no other effect than the production of a profuse diarrhea. Since then she had taken no medicine. After the first month of pregnancy she noticed that her breasts were slightly enlarged, and this enlargement has persisted, but at no time had she noticed the presence of milk.

On admission she said she had had labor pains for three days. The internal os admitted one finger. The next day she had a normal delivery. Her breasts were examined carefully; they were normal in size and appearance, with well-formed nipples, and seemed to contain the usual amount of glandular tissue, but not a drop of colostrum could be obtained, either by massage or by the use of a breast-pump. The day after delivery a strong baby was given her to nurse, but no milk showed at the nipples. For sixteen days after confinement, with the exception of the sixth, seventh, and eighth days, this was tried, but with the same result. The breast-pump and massage were also tried on different occasions, but absolutely no

milk could be obtained. The breasts never showed any engorgement. Uterine involution and the puerperium were normal, the patient being up on the tenth day. She had no rise of temperature above normal during this period. Her baby was a female, weighing 2825 gms., and has done well on another woman's milk. Although the child was below weight, its appearance and the menstrual history of the mother would not lead one to think it premature. The patient herself is about five feet two inches in height and weighs about 120 pounds. Her family history is of interest. Her mother is living and in good health, having borne nine children, three of whom are now living; four died at about five years of age, one at eight, and one at twelve months. The patient is the eighth child, and says her mother has often told her that in none of these puerperia had she any milk, although the breasts were natural in appearance. The patient has one married sister, who at twenty-five years gave birth to a full-term child, and she, likewise, never had a drop of milk for her baby.

In this connection, what Winckel says is of interest: "Harlan, Reil, Pitschaft, Hohnbaum, and Berndt, Jr., assure us that they have repeatedly observed the complete absence of the formation of milk in lying-in women, and have found this in several successive childbeds in the same woman. . . . This anomaly may be inherited by the daughter from the mother." It will be observed that in this case none of the usual causes was present. The woman was strong and healthy, but not obese, and only twenty-five years old. She gave birth to a full-term and living child. She had no rise of temperature, and no intercurrent disease during her puerperium. She now has been under observation for over two months and no milk has appeared.

A CASE OF CARCINOMA AND SARCOMA OF THE NOSE.

By D. MILTON GREENE, M.D.,
OF GRAND RAPIDS, MICH.

GRYNFELDT says that notwithstanding the fact that the nasal mucous membrane is the most frequent seat of inflammation, malignant disease in this locality is extremely rare. Cornil and Ranvier have maintained that there is no well authenticated case of primary carcinoma of the nose. About forty such cases have been reported, but of these, only a few of the growths were subjected to microscopic examination. The diagnosis in all the other cases was made from the gross appearance of the lesion and the clinical history. Sarcoma of the nasal passage is almost as rare as carcinoma. So far as I have been able to learn, there is no recorded case of a mixed growth of carcinoma and sarcoma of the nose; indeed, it has been stated by some pathologists that sarcoma and carcinoma very rarely, if ever, are found together anywhere in the body, while others claim that they do occur together, but that the cases are extremely rare.

Mrs. K., aged thirty-two, referred to me by Dr. C. M. Kelley, presented the following history: She had had a catarrhal condition of the nasal mucous membrane for years, accompanied by an offensive discharge, for which she had been treated. The symptoms had subsided when I saw her, and she had been quite free from the trouble for some time. During the previous eight months she had had nasal stenosis, especially on the right side, together with pain and a slight discharge. Since three weeks previously the pain had increased, becoming more constant, and changing in location from the bridge of the nose and forehead, where it had formerly been, to the right eye, cheek, temple, and ear. She had had epistaxis frequently.

Upon examination, I could discover no external signs of disease, no exophthalmos or displacement of the eyes, and could not make out the presence of a growth in the orbit. The left nasal cavity was quite free, as were the post-nasal space and vault of the pharynx. The hard and soft palate were of normal color and free from inflammation. In the right nasal cavity I found the middle and lower turbinated bodies swollen, hard, and infiltrated, and they did not contract under the local application of a six-per-cent solution of cocain. The middle turbinated body was the seat of an ulcer which, macroscopically, looked like an epithelioma, having the same appearance presented by an epithelioma of the lip. Protruding from between the middle and lower turbinated bodies, in the region of the *ostia maxillare et ethmoidea*, there was a growth as large as half of a small almond. The ulcerated turbinated covering bled freely when touched with a probe, but the growth did not bleed so readily. It looked like a vascular polyp. It was grasped with a pair of small forceps, but being friable, it broke down and left a large bleeding base. I had been impressed by the history of the case, notably that of the pain and bleeding, and had thought that the disease was malignant. Of this I was more convinced after attempting the removal of the growth. I then inquired into the family history, and found that her father had died of cancer of the stomach.

The patient went to her home. I informed Dr. Kelley and the patient's husband of what I had found, and said that I believed the disease to be malignant. I saw her at her home twice subsequently, having been called on account of the pain and continued bleeding. Several physicians were consulted at about that time and gave various opinions, mostly to the effect that the pain was caused by the removal of the growth. Nearly three months later, as she had been steadily growing worse, I was called in again, and found that the growth in the nose had returned and was larger than when I first saw her. There was exophthalmos of the right eye, the organ being displaced markedly to the temporal side of the orbit. A growth could then be felt in the orbit in the region of the ethmoid cells. It was quite evident that the growth did not originate in the antrum of Highmore, as in such a case the eye would have been displaced upward. An operation was requested, and I consented to perform it, after telling them of the liability of the disease returning.

On January 27, 1896, I operated by making an incision one inch long at the lower border of the supra-orbital ridge, extending to the nasal bone, then carrying a second incision vertically from this point to the inner side of the lachrymal sac, thereby exposing the growth. Passing

my finger into the orbit and using it for a guide, I passed a sharp curette through the nose and scraped away the growth, together with the middle turbinated body, the ethmoid cells, and a portion of the sphenoid bone, which had been softened by the disease. There was quite a sharp hemorrhage. Some shock followed the operation, but the patient soon rallied. The external wound healed quite promptly, except a very small hole. The temperature rose to 100° F. but once; the remainder of the time it was normal.

The patient was relieved of her pain for about one month, when the growth showed signs of returning. The pain, which before the operation had been severe and constant, returned with the return of the growth, and she begged for another operation, which I performed on February 28th. This time I operated entirely through the nose and scraped away the remaining turbinated bodies and a portion of the ethmoid, together with all of the diseased tissue within reach. The shock was extreme, and she came near dying on the table, but she finally recovered from the effects, and went on as she did after the first operation.

The disease promptly returned, and she died a month later. Before death she was delirious for three days, and became almost completely blind. The growth was examined by three pathologists—Dr. George Baert, Dr. J. B. Whinnery, and a member of an association of pathologists in Chicago, neither knowing what the other had found. Each and all found mixed-celled sarcoma and carcinoma. The autopsy, which included only the brain and interior of the skull, was conducted by Dr. Sharp. The brain was fairly healthy, the dura being somewhat inflamed. The right orbital plate of the frontal bone had been entirely absorbed, and the left orbital plate was softened. The immediate cause of death was not ascertained.

SPECIAL ARTICLE.

THE NEW YORK ACADEMY OF MEDICINE—CELEBRATION OF ITS SEMI-CENTENNIAL ANNIVERSARY.

THE fiftieth anniversary of the inauguration of the Academy of Medicine was celebrated January 29th by commemorative exercises held in Carnegie Hall and a social gathering in the reception rooms of the Academy. This jubilee year has awakened anew the recollections of the circumstances that led to the organization of this institution, and the early struggles that the founders underwent to place it upon an enduring basis. The objects of the Academy, as set forth in its preliminary announcement, were:

1. The cultivation of the science of medicine.
2. The advancement of the character and honor of the profession.
3. The elevation of the standard of medical education.
4. The promotion of the public health.

These objects have been steadily kept in mind, and have made the Academy a power for good in these several directions.

On the adjournment of the Society for the Relief of the Widows and Orphans of Medical Men, after its fourth annual dinner, on the 18th day of November, 1846, at Peteler's, a then famous down-town restaurant, such well-known physicians as John Stearns, John W. Francis, Valentine Mott, Isaac Wood, Alexander H. Stevens, Thomas Cock, James R. Manley, Joseph M. Smith, John P. Batchelder, Henry D. Bulkley, Willard Parker, and others, remained to discuss the condition of the profession in this city and to consider what could be done to elevate it.

The result of the discussion was an invitation to the profession to hold a general meeting at the hall of the Lyceum of Natural History on the following 12th of December.

A small hall in Wooster street, over a coal yard, was secured as a place of meeting, and there the Academy continued to meet until June, 1850, when it moved to the smaller hall of the New York University. Later on its meetings were held in the lower lecture room of the College of Physicians and Surgeons.

As far back as the date of the incorporation of the Academy, June 23, 1859, subscriptions were solicited for a building fund, but it was not until 1875 that a building was purchased. On the 20th of May, 1875, it for the first time held a meeting in its own home, No. 12 West Thirty-first street.

A building having been acquired, renewed efforts were made to obtain a library. Many of the members contributed books from their private libraries, and some gave their entire collections, but the first real impetus was given when Dr. Abram Du Bois, although not a member, contributed several thousand dollars for the purpose of building a library hall at the rear of the building.

Library Hall, as the new part of the building was called, was finished and occupied in the fall of 1879, and thereafter rapid strides were made toward the great library which is now the proud possession of the Academy. It is now contained in the new building on West Forty-third street, consists of about 50,000 volumes, and, with the exception of that of the Surgeon General of the Army at Washington, a National affair, is the largest medical library in the United States.

Within a few years after the Academy had purchased a home in West Thirty-first street it outgrew its quarters, and strenuous efforts were made to acquire a more commodious and better adapted building. The present home in West Forty-third street was the result. The building, with the land upon which it stands, cost $284,426.59. It was built with subscriptions, large donations, and the proceeds of the sale of the Thirty-first street house. It is free from debt. The Academy's property, as shown by the Treasurer's report of December 15, 1896, is worth $336,740.82. There are a number of lecture, prize, library, and other funds that have been given for specific purposes.

The corner stone of the present building was laid in 1889, and in 1891 the edifice was ready for occupancy. It is a six-story structure, 75 feet front, and 100 feet deep. Its façade is of a Scotch redstone that was imported for the

building. Its interior is especially adapted for the purposes of the Academy, and its arrangement is excellent. The library has accommodations for 200,000 volumes.

Of those who helped to found the Academy in 1847, the following Fellows are still alive and connected with it: Drs. Thomas M. Markoe, Edwards Hall, Lewis A. Sayre, and S. S. Purple, of this city, and John T. Metcalf and William Young.

The following is a list of the Presidents: Drs. John Stearns, John W. Francis, Valentine Mott, Isaac Wood, Alexander H. Stevens, Thomas Cock, Joseph M. Smith, Willard Parker, John P. Batchelder, John Watson, James Anderson, Alfred C. Post, Henry D. Bulkley, Edmund R. Peaslee, Austin Flint, Samuel S. Purple, Fordyce Barker, Abraham Jacobi, Alfred L. Loomis, D. B. St. J. Roosa, Joseph D. Bryant, and Edward G. Janeway.

The celebration proved a most enjoyable affair in every particular. The audience was composed of a large number of the most distinguished physicians of the city and State; of men prominent in the other professions; of well-known scientists and public men, and of representatives of the highest social circles of New York. The exercises consisted of an invocation by Bishop Potter, remarks by Dr. Joseph D. Bryant, the retiring President of the Academy, some reminiscences by Drs. S. S. Purple and Lewis A. Sayre, and an oration by Dr. Abraham Jacobi. This led up to the occasion of the evening, which was an address by President Cleveland.

Dr. Jacobi reviewed the work accomplished by the Academy, and the great progress of scientific medicine during the last fifty years. He referred to animal experimentation, and said that although many persons considered this branch of study cruel and unnecessary, there were many diseases which could be studied only by animal experimentation. The progress of medical science, he predicted, will be very great during the next fifty years. Its methods of investigation will not be changed, because they are now based on natural science, and medicine is now a part of natural science; but it will develop and progress, and become more and more a part of the education and culture of the people. Its ideal is the improvement of man, physically and intellectually.

PRESIDENT CLEVELAND'S ADDRESS.

"I have anticipated the share assigned to me on this occasion with considerable trepidation for various reasons. I have been chiefly disturbed because of my inability to discover sufficient ground for my right to join those who celebrate the semi-centennial of a medical association. I do not forget, however, that seven years ago I was accorded the privilege of participating in the exercises when the corner stone was laid of the building which is now the home of the organization which to-night celebrates its half century of useful and honorable existence.

"But this incident, which aroused an interest still undiminished in the Academy of Medicine, hardly entitles me to a share in the felicitations of those who have since borne the heat and burden of its work, while I have enjoyed the ease and happy surroundings of public station.

"Confessing, therefore, that I have no right to even standing room within the inner circle of the profession, I I have boldly and without the least authority determined to speak to you as a representative of the vast army of patients and laymen.

"At the outset I desire to remind you that you owe us much. Though largely in the majority and with plenty of members to spare, those who are well conducted among us do not vex you with hurtful competition. Instead of making life hard for you by an observance of the laws of health, we assist you by indulging in all sorts of irregularities. We are obedient and submissive to your commands—that is, when we are sick—and we sometimes pay your bills even after a recovery to health, which we are always certain would have resulted without your interference.

"We begin by conceding most heartily, and without the least reservation, the learning and skill of those now constituting the medical profession, and the wonderful advance that has been made through their untiring labors and investigations, in the alleviation of human suffering and the saving of human life.

"It may be that this seems to you an acknowledgment so much your due as to be hardly worth making. You should, however, value it, because it is sincerely made by those who were not born yesterday, but who hold in lasting and tender memory the ministrations of the village doctor of fifty years ago, and are now the living monuments of his faithful care. He, too, alleviated suffering and saved human life. We know that it was not given to him to see the bright lights that now mark the path of medicine and surgery, but you cannot convince us that he groped entirely in the dark.

"We remember without abhorrence his ever-ready lancet and the scars of his blood-letting found in every household. We endure with complacency the recollection of his awful medicine case, containing bottles, powders, and pills, which, whatever might be thought of them now, seemed then to be sufficient for all emergencies—to say nothing of the tooth-pulling tools and other shiver-breeding instruments sometimes exposed to view. If he was ignorant of many of the remedies and appliances now in use, he, in a large measure, supplied the deficiency by hard-headed judgment, well-observed experience, and careful nursing. Besides, it was in his favor that he did not have to bother his head with many of the newly invented and refined diseases that afflict mankind to-day. He had no alloted hours for his patients, but was always on duty, and we knew the sound of his gig as it rattled past in the night.

"Your ways are better than his; but we desire you to regard this admission as all the more valuable because it is carved out of our loyalty to our old village doctor, who brought us through the diseases of childhood without relapse, who saved from death our parents and our brothers and our sisters in many a hard combat with illness, and who, when vanquished and forced to surrender, was present in the last scene to close the eyes of his dying patient and sympathize with those who wept.

"I hasten to say that we do not for a moment suppose that advancement in the science of medicine and surgery

has smothered the faithfulness and tender consideration which characterized the practitioner of former days. If we seek charitable service to the sick and suffering, a noble appreciation of obligation to humanity and self-abnegation in the discharge of professional duty, we must look for them among our physicians and surgeons of to-day.

"If we have now arrived at an understanding, you are, I hope, prepared for a suggestion quite in keeping with the extremely moderate and reasonable disposition that characterizes the patient and layman. You have invaded our benighted contentment and led us out into broad fields of scientific discovery. This has inspired us with a new-born spirit of wisdom and criticism which demands that new and larger fields be opened to our complacent gaze. You have penetrated the places where the germs of disease are hidden. We are quite certain that you should be required to destroy the origin of disease and ultimately to usher in the day when the only escape from the world will be through a passageway marked 'Old Age Exit.' If this has the appearance of exacting too much, or if business considerations present obstacles to its accomplishment, I think we ought, perhaps, to reduce our claims, or at least give our doctors time to find other employment.

In the meantime, those of us who are conservative must be allowed to hope that further investigation will continue to point the way to the prevention of disease. For this investigation we must still rely upon the efforts of those who have already done so much in that direction, encouraged and stimulated by such effective organizations as the Academy of Medicine. We are sure that this work, having arrested the attention of the world's brotherhood of medical science, will not be neglected; nor need we fear that America's contribution to splendid results will be deficient.

In some instances, however, investigation has performed its part, and only effective action in other quarters is necessary to supply needed remedies. In such cases, of course, you were absolved from all responsibility in your professional character by exhibiting dangers and warning against them. Thus certain diseases which you deem contagious yet remain imperfectly isolated. You have demonstrated the peril to health of unwholesome water and noxious surroundings, and yet much remains to be done by way of protecting our people against these dangers.

"You have established a code of ethics which condemns charlatanism in all its forms; and yet ignorant pretenders roam over the land offering to perform miracles, or are located in our towns and cities, preying upon the weakness of the sick and afflicted, while men and women are allowed to die without medical attendance, deluded with the hope that faith will save them in their last extremity. Within the limits of your professional power and influence you seek to restrain any approach to criminal malpractice; yet newspapers disgustingly, yet covertly, advertise the way to such crimes, and startle their readers with sensational tales of death and misery to which they are directly accessory.

"I need not suggest that such evils are allowed to exist by reason of the insufficiency of our laws or a laxity in their execution. I have intimated that for this condition you are not responsible in a professional sense, but are you sure that as citizens you are doing all in your power to remedy the situation?

"The village doctor was not only our physician, but he was a man of influence in all neighborhood affairs. In every matter that concerned the good of the community he was at the front. He was president of the village or represented his town in the county board of supervisors, and if he was ever late in visiting a patient it was because he lingered at the post-office to discuss the political situation. Thus he joined with the performance of professional duty a discharge of the obligations of citizenship.

"We cannot but think that the discoveries and improvements in the medical practice which we now enjoy are dearly bought if the members of the profession in their onward march have left behind them their sense of civic obligation and their interest in the general public welfare. We cannot accuse you of utter neglect of your duty to the country; and yet we cannot keep out of mind the suspicion that if your professional work in exposing evils were more thoroughly supplemented by labor in the field of citizenship, these evils would be more speedily corrected.

"If laws are needed to abolish abuses which your professional investigations have unearthed, your fraternity should not be strangers to the agencies which make the laws. If enactments already in force are neglected or badly executed, you should not forget that it is your privilege and duty to insist upon their vigorous and honest enforcement. Let me also remind you of the application to your case of the truth embodied in the homely injunction: 'If you want a job well done do it yourself.' If members of your profession were oftener found in our National and State legislative assemblies, ready to advocate the reformatory measures you have demonstrated to be necessary, and to defend your brotherhood against flippant and sneering charges of impracticability, the prospect of your bestowal upon your fellow-men of the ripened results of your professional labor would be brighter and nearer.

"While thus suggesting the need of your influence in legislative circles for the accomplishment of reforms related to your profession, you will, I hope, permit me in conclusion to enjoin upon you the duty of an active and general interest and participation in public affairs for the promotion of your country's good in all its phases. Our Government was founded in the faith and anticipation that those who loved it most and were best able to hold it steady would be at its helm. Without this it will surely go astray. Never did patient need your medical treatment more than the body politic now needs the watchful care of your patriotic and disinterested citizenship.

"No object of personal ambition and no activity of professional life should be permitted to withhold from our Government the tithe of devotion and service due from its thoughtful, intelligent, and educated citizens. The

reward of a willing recognition of our obligation to watch and protect our free institutions and preserve them from weakness and decay, will surely come when a just government, supported by the patriotism of a loving people, shall bestow with equal hand upon us and all our countrymen the blessings of national peace, contentment, and happiness."

The large audience then repaired to the Academy of Medicine, where President Cleveland held an informal reception.

MEDICAL PROGRESS.

Large Vesical Calculus in a Boy Twelve Years Old.—VERHOOGEN (*La Policlinique*, 1896, No. 13, p. 655) has reported the case of a boy, twelve years old, who had suffered for six years with intense vesical pain, attended by an incessant desire to urinate. During the paroxysms of pain there was violent vesical and rectal tenesmus, and the small amount of urine voided had a strongly ammoniacal odor. The frequent rectal tenesmus and the repeated efforts at defecation had resulted in a considerable prolapse of the rectum. There had never been hematuria. The diagnosis of vesical calculus had long been made, but an attempt at removal by the perineal route had proved unsuccessful. By palpation through the rectum and the abdominal wall the stone appeared to be as large as a mandarin, and a process as large as a nut projected into the urethra. The size of the stone, as related to the capacity of the bladder, seemed to contraindicate lithotrity in favor of suprapubic lithotomy. The bladder being distended with about two ounces of sterilized water, and the patient placed in the Trendelenburg posture, a median longitudinal incision about two inches long was made in the abdomen above the pubes, and, after detachment of the peritoneal layer, the bladder was opened and the calculus exposed. The stone, whose peripheral layers consisted of phosphates, was very friable, and a good deal was first removed little by little. After some difficulty the calculus, which was adherent to the mucous membrane, was extracted, and the wound closed. The further progress of the case was uneventful. The interior of the stone contained three spherical nuclei of uric acid, each about the size of a cherry. Below it presented a pyriform prolongation nearly an inch long and an inch in diameter at the base. Its anterior surface was marked by a deep furrow corresponding to the inferior border of the pubic arch.

Pyemia in the Sequence of Acute Inflammation of the Middle Ear Following Diphtheria.—RIMINI (*Berliner Klinische Wochenschrift*, 1896, No. 27, p. 609) has reported the case of a child, 3½ years old, coming under observation on the sixth day of a mild attack of diphtheria. The symptoms disappeared in the course of three days, following an injection of the antitoxin, and convalescence appeared to have set in. Ten days after the injection, however, the temperature again rose, and a scarlatinoid eruption made its appearance, especially on the lower extremities. Two days later the temperature again suddenly increased, and on the following day there was complaint of pain in the right and subsequently also in the left ear, which was relieved by the occurrence of a copious discharge. In the further progress of the case several chills occurred, and the left knee-joint and the left forearm became swollen and painful. The pupils were dilated and sluggish in reaction, and the eyes deviated toward the left. Finally, coma set in and terminated in death. Upon *post-mortem* examination, the lower lobe of each lung presented evidences of bronchiolitis, but the larynx and trachea were free. The heart was small and firm. The liver was enlarged and in a state of fatty degeneration; the spleen also was enlarged. The mesenteric glands were tumid, and the kidneys swollen, anemic and fatty. The left knee-joint contained a considerable amount of turbid, purulent, grayish-brown exudate, and the connective tissue of the left forearm was the seat of serous infiltration. The brain was slightly edematous, but free from other alteration. Careful examination of the temporal bones disclosed the presence of dark, fluid blood in the transverse, superior petrosal and inferior petrosal sinuses. The external auditory canal, the middle ear and the antrum on each side were filled with thick, cheesy pus. The left tympanic membrane was entirely destroyed; the right presented a small perforation. Microscopic examination of the pus showed the presence of a large number of cocci only.

Splenic Leukemia in a Child Eight Years Old.—CHARON and GRATIA (*Bull. des Séances de la Soc. Roy. des Sc. Méd. et Nat. de Bruxelles*, 1896, No. 7, p. 63) have reported the case of a girl, eight years old, who came under observation with an abdominal tumor of six years' standing, mainly with a view to operation. Examination, however, disclosed the enlargement to be due to an hypertrophied spleen; and the liver also was increased in size. The subcutaneous veins of the abdominal wall were dilated, but there was no evidnece of any noteworthy ascitic effusion. A study of the blood disclosed the proportion of colorless to red corpuscles to be as one to five. The temperature was a little above the normal. The administration of an arsenical water was begun, but had to be abandoned on account of the resulting diarrhea. At a second examination of the blood the number of red corpuscles per millimeter was found to be 880,000, the number of colorless corpuscles 305,000 and the hemoglobin-estimation 39 per cent. Many of the red corpuscles were of increased size, a small number were nucleated, and poikilocytosis was marked. The colorless corpuscles consisted of small lymphocytes, multinuclear leukocytes or leukocytes with polymorphous nuclei, and large mononuclear leukocytes. Death took place with symptoms of dyspnea. Upon *post-mortem* examination the lower lobes of both lungs were found atelectatic. The spleen weighed 38½ ounces and presented evidences of white infarction; its capsule was thickened in places, its parenchyma pale and dense. Microscopic examination disclosed the existence of a uniform hyperplasia of the reticular structure. The liver weighed 63¼ ounces; its surface was smooth, its parenchyma pale and firm.

The parenchyma was remarkable for the enormous development of its vascular system, particularly the intralobular veins, which were filled with leukocytes. The hepatic cells were distorted and compressed. The lymphatic glands presented little abnormality, those of the mesentery containing large cells, with nuclei, resembling giant-cells.

Extra-Genital Infection with Gonorrhœa.—AQUILA (*Monatshefte für Praktische Dermatologie*, 1896, B. xxiii, No. 1, p. 16) describes an unusual method of infection with gonorrhea, of which he was himself the victim, while acting as assistant in a large service for the treatment of cutaneous and venereal diseases. It was the custom to treat the cases of urethritis with injections of a three per cent. solution of silver nitrate, and to study bacteriologically the urethral secretions every third or fourth day, care always being taken to wash the hands afterward with soap and then immerse them in an antiseptic solution. The development of an eczema of the hands led to a temporary relaxation of these precautions, and in a short time a sense of burning was noticed on the preputial surface of the glans penis and at the extremity of the urethra. The irritation gradually increased, and in a little while a drop of pus made its appearance, examination of which disclosed the presence of gonococci. A typical attack of gonorrhea now developed and pursued the ordinary course. The infection is believed to have been incurred either through bathing in a tub used by infected patients, or directly from the undisinfected fingers used in making cover-slip preparations of urethral secretions.

THERAPEUTIC NOTES.

Injections of Carbolic Acid into the Parenchyma of the Tonsils.—Acting upon the theory that recurrent tonsillitis is set up in most cases by retained germs, which, under circumstances unfavorable for the patient, rapidly develop and cause new inflammation, KRAMER (*Centralbl. für Chir.*, No. 47, 1896) has for some years been using parenchymatous injections of carbolic acid in order to destroy the retained bacteria. The patients so treated were those who, for a considerable period of time, had suffered from attacks of acute inflammation of the tonsils, occurring at intervals varying from two months to one year. There was no especial reason in the previous treatment of these patients why the trouble should recur. The cases in which abscesses had formed were treated by sufficient drainage and frequent gargling and irrigation with antiseptic fluids. Besides, in many cases, portions of the tonsils had been removed or the organs had been scarified with the cautery, carious back teeth had been extracted, etc.

The treatment was not begun until some weeks after the recurrent attack had subsided. It consisted in the injection of carbolic acid 1:40 every two or three days until four to six injections had been made. The sterilized needle of an ordinary syringe was introduced to a depth of one centimeter into the anterior pillar of the fauces, after this area had been cocainized, and if no blood escaped the carbolic solution was injected a drop at a time, the point of the needle being pushed in several directions, until ½ c.cm. (ɱ xv) had been injected. At the subsequent injections another site was selected. The local reaction was slight. There was some discomfort in swallowing, the following day, but no general symptoms were excited.

A single case would not prove anything, but Kramer reports fifteen patients who have already passed two and a half years without recurrence of their previous trouble, and in numerous other instances two years or less have gone by without relapse, so that the author feels confident that the freedom from recurrence is to be set down to the influence of the injections.

Advantages and Disadvantages of Eucain in the Surgical Treatment of the Eye.—WUSTEFELD (*Münch. Med. Woch.* December 22, 1896,) used a 5 per cent. watery solution of eucain in twenty operations upon the eye. In every instance the patients complained of the sharp burning, which lasted a considerable time and produced dilatation of the vessels of the sclera. The anesthesia, however, was satisfactory, closely resembling in its beginning and its continuance that of cocain. In almost every case there was a difference in the pupils and paralysis of accommodation. The former was evident in fifteen minutes and the latter from ten to fifteen minutes later. Microscopic examinations of the eyes of rabbits showed in every case unmistakable evidence of the effects of the eucain. The epithelial cells were swollen, and in some places the upper layer was separated from the under layer. After these findings it is scarcely probable that eucain will displace cocain in eye surgery.

Creosote in the Treatment of Children.—HOCK (*Wien. Med. Blätter*, December 3, 1896,) has had brilliant results from the use of creosote in treatment of children, not only in phthisis but in the sequelæ of whooping cough and the catarrh which so often follows measles. These two conditions, as is well known, furnish a favorable opportunity for tuberculous infection. The usual treatment with expectorants is too often without result. Most diseases of childhood are accompanied by disturbances of digestion, and these are the symptoms which are first relieved by the use of creosote. The appetite improves, the abdominal pain disappears, and weight increases. Later the pulmonary condition improves. It goes without saying that the creosote must be given in such a manner as not to upset the stomach, and large doses in a concentrated form are therefore to be avoided, the drug being given in small doses with meals. Pills, though cheap, are objectionable, especially for very young children. Hock tried in a number of instances to administer fluid creosote with tincture of gentian, but in almost every case the stomach refused the medicine after a few days. He was most successful with a 1 to 2 per cent. solution of creosote in codliver oil, to which one-twentieth of 1 per cent. of sugar was added. The dose of this mixture is from ½ a dram to ½ an ounce, three times daily, according to the age of the patient.

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THE COMPULSORY NOTIFICATION ACT OF THE NEW YORK BOARD OF HEALTH.

JUST at present the medical profession of New York City is in a condition of hyperesthesia regarding its rights and prerogatives. It is quite possible that this may account for the somewhat irritable opposition that has manifested itself to the recent announcement of the Board of Health regarding the compulsory notification and isolation of cases of pulmonary tuberculosis. In these circumstances the disinterested judicial opinion of the *Boston Medical and Surgical Journal* may prove a gentle sedative to our overwrought indignation.

"We cannot but think that these provisions are in the line of future progress in the application of medical and sanitary science. Laws are only useful in so far as they can be enforced, and enforced with less loss and injury than is entailed by their absence. The useful and possible enforcement of the regulations under discussion will depend very greatly upon the tact, discretion, and good judgment of those entrusted with carrying them out. The working and the results of these regulations in New York will be watched everywhere with much interest.

"The question of diagnosis, of isolation, of treatment in the large sense, is decided to-day in the laboratory rather than at the bedside. There is a danger of being too ready with these new-found weapons, of expecting too much from them; but there is also the danger of rejecting them because they are new. The general practitioner may be a very desirable check upon the enthusiastic bacteriologist, but the practitioner, the hospital clinician, and the bacteriologist, should all coöperate cordially and heartily together, and carry the general public along with them by example as well as by precept. There is work for all, and distinction to be gained from good work by all, but there should be no room for jealousy and no time for hindrance."

As confirmative of the wisdom of the Board of Health in taking the position it has, the facts presented by Dr. Hance in a recent paper before the Academy of Medicine are of interest. The paper was entitled "A Further Study of Tubercular Dust," and was based upon experiments made by the reader at the request of Dr. Biggs. As a result of one of these experiments, three out of four guinea-pigs that had been inoculated with dust taken from a tenement-room in which a phthisical woman had lived and died, developed tuberculosis and died with well-marked lesions of the disease; while four guinea-pigs inoculated with dust taken from a room where a patient with tuberculosis lived, but who observed the regulations of the Board of Health, at the end of fifty-seven days, when the animals were killed, were apparently perfectly healthy.

THE ABUSE OF CHARITY.

WHILE the medical profession in all the larger cities of America is struggling with the great problem of dispensary and hospital abuses, similar problems are being encountered by our professional brethren across the water. We had occasion recently in our news column to refer to the fact that certain club or lodge doctors in the towns of Beckenham and Penge had been induced to combine and take a positive stand against a reduction in prices. In other words, the doctors threatened to strike in order to maintain the rate of fees. Unfortunately, the combine was defeated by the decision of the clubs to pool their interests and import a medical staff. Now it is reported that a wealthy resident of Beckenham has offered to build and furnish a dispensary at his own expense for the benefit of the club members.

A pitiful tale comes from the town of Sheerness in England, of a practitioner who was sued for non-payment of debt. He swore that he had been in practice in that town for five years; that he had a wife and one child; that his chief source of income was a club, the members of which he attended professionally

at the munificent rate of one-halfpenny each, per week, from which he realized £1 17s. ($8.99), out of which he had to provide all drugs. His private practice yielded him an income of five shillings ($1.20) per week. Commenting upon this, the *Medical Press and Circular* says: "Can anyone propose that this miserable brother shall be prevented from earning the halfpenny a week upon which he and his family starve? Or that the people who expect to get capable advice and medicine for that sum shall be forcibly dispossessed of their hallucination?"

In Paris the same problem presents itself in a little different phase. Here we have an abuse of charity which has grown out of the "medical night service." This service is provided for by the city of Paris out of the public treasury, and the hours of duty are from 10 in the evening until 6 in the morning. The "*Medecins de nuit*," as they are called, volunteer their services. Any medical man who desires to join the corps is invited to inscribe his name in a book kept at the police station of his district. If any person falls suddenly ill in the night, a message is conveyed to the police and the police sergeant looks up the name of the medical man on the roll living nearest to the residence of the patient, and accompanies the practitioner to the house. The necessary attention having been given to the sick person, the sergeant pays the doctor a fee of 10 francs ($2.00). This sum is afterward charged to the prefecture of police, which authority takes steps to reimburse itself when the patient is in a position to refund the money, but when the patient has no means, the fee has to come out of the city treasury. The Municipal Council has stated that, while the medical night service is highly appreciated by the Parisian population, it is nevertheless a fact that, unfortunately for the city budget, the great majority of the persons who seek the aid of the service maintain that they should be attended gratuitously. This state of affairs has naturally led to the reorganization of the service upon a different basis. Under the new rules, 135 practitioners will be employed at an annual salary of £24 (about $120). This reduction of fees will place the staff in the position of receiving not more than 3 francs (60 cents) a visit. At this reduction the doctors are naturally indignant, and insist that if the new rules are permanently enforced they will be obliged to sever their connection with the department.

CONGENITAL SPASTIC RIGIDITY—LITTLE'S DISEASE.

IN 1862, the English surgeon and obstetrician, Little, communicated to the London Obstetrical Society the result of observations which he had made on a class of children born before full term, or at term, and often with the use of instruments. The defects which these children presented were principally somatic and to a slight degree psychic. The former consisted of diplegia of a spasmodic type, most strikingly manifest in the lower extremities, where it constituted a condition of paraplegic contracture, less evident in the upper extremities, although frequently sufficiently well-marked there to constitute a distinct impairment, and, least marked of all, in the cephalic extremity. The psychical defect consisted of lack of proper and timely development of the mental processes, which was very rarely of such a degree as to constitute a mild form of idiocy. This description has been perpetuated by almost every writer on the subject since that time. The symptom complex, although dating from birth, is not usually recognized until a number of months later—possibly at the time when a child endeavors to creep and to walk. Attention is then drawn to it by the inability to make either crawling or walking movements. In the beginning, the spastic, rigid condition may be quite well marked in the upper extremities; possibly, also in the cephalic extremity; but as the infant grows older, this condition tends to decrease, until, when it arrives at the age of beginning childhood, manifestation of the spasticity in the upper extremities is comparatively slight, and perhaps attracts no notice. The evolution of the disease-process in the lower extremities is very much more delayed, and oftentimes remains until the end of the patient's life, constituting a very distinct and striking deformity, of which the principal symptoms are rigidity, without particular loss of power, cross-legged progression when the patient essays to walk, increased myotatic irritability and loss of purposive movements. The condition is often known as congenital spastic rigidity, but very frequently, and particularly during the last few years, Little's name has been eponymically associated with it.

The pathogenesis and morbid anatomoy of Little's disease are still very obscure. Lately, van Gehuch-

ten has turned his attention to the subject, and the result is that more illumination has been given it than at any time since its original recognition. His contributions have appeared in recent numbers of the *Journal de Neurologie*.

In discussing the clinical and etiological side of the disease, van Gehuchten points out that those authors who teach the occurrence of this condition in children born at full term with the aid of instruments are in error, at least in part. He believes that obstetricians are nearly in accord that the symptom complex of congenital spastic rigidity is commonest in children born prematurely; and it matters very little whether the birth be an easy or a difficult one. At this time of life the pyramidal tracts are almost wholly non-medullated and naturally, therefore, devoid of the ability to functionate. The first tracts to become medullated are those constituting the indirect motor pathway—the pathway through the pons-cerebellum—while the direct pathway—the cortico-spinal fibers—are very much delayed in acquisition of myelin sheaths, and perhaps may never develop them at all. In its downward growth during the latter years of infancy, the tract of the cortico-spinal fibers reaches first the upper and then the lower levels of the cord, those fibers destined for the lumbar and sacral portions requiring the longest time to reach their destination. In accordance with this, the rigidity and contracture disappear first in the face and head, then in the upper extremities, and remain longest and perhaps do not disappear at all in the lower extremities.

In short, therefore, this author contends that absence of the myelin sheaths of cortico-spinal fibers constituting the pyramidal tract is attended by the same clinical phenomena as degeneration of these fibers. In both conditions there is an absence of inhibitory action of these fibers upon the motor ganglion cells of the anterior horns, consequently the spasticity. If his claims are corroborated by other investigators, a very important step will have been taken for a satisfactory explanation of the pathogenesis of this condition, and possibly also for the prevention of its occurrence. If it be a developmental defect dependent upon premature birth, the prevention of the condition will simmer down to an obstetrical problem, to wit: How can delivery be delayed until the period of complete fruition?

These recent writings of van Gehuchten, which commend themselves to one because of the closeness of reasoning contained in them, especially reasoning from analogy on well-founded anatomical facts, will at least serve the purpose of calling the attention of the general practitioner, as well as of the neurologist, to the necessity of more accurate and trustworthy observation concerning the genesis and time of occurrence of the disease. At the same time they enlarge our perspective of the condition by furnishing us a different point of view from which to study it.

JOSEPH COLLINS, M.D.

ECHOES AND NEWS.

The New York Board of Health Censured.—Last week a coroner's jury brought in a verdict in which it censured the Board of Health for granting licenses to midwives without examinations. The case was that of the death of a woman after treatment by a midwife.

Officers of the Philadelphia Neurological Society.—At the January meeting of this Society the following officers were elected: President, Charles W. Burr; Vice-presidents, J. Hendrie Lloyd and J. Madison Taylor; Secretary, W. S. Spiller; Treasurer, Guy Hinsdale.

District Branch of the N. Y. State Medical Association.—The thirteenth annual meeting of the Fifth District Branch will be held in Brooklyn on Tuesday, May 25, 1897. All Fellows desiring to read papers will please notify E. H. Squibb, secretary, P. O. Box 760, Brooklyn.

Lord Lister to Visit America.—It is a great pleasure to be able to announce that Lord Lister is seriously considering a visit to New York during the approaching summer. No guest would be more honored and welcomed by the medical profession of America.

Deaths from Accidental Asphyxiation.—In Boston during the year 1896 there were twenty-four deaths from accidental gas-poisoning, a number greatly in excess of previous years and directly attributable to the water-gas now employed. This contains about forty per cent. carbonic oxid and a small proportion of naphtha gas. The former is odorless and consequently insidiously fatal. Professor Wood of Harvard Medical School suggests a larger admixture of petroleum gas, which has a most penetrating odor.

Control of Milk Supply in Minneapolis, Minn.—Minneapolis is one of the small number of cities in which the health authorities have undertaken to prevent the sale of milk from consumptive cows to the people under their jurisdiction, by requiring all dairy farmers who ship milk to the city to prove that their herds have been purified by means of the tuberculin test. One farmer rebelled against this requirement, and appealed to the courts, upon the

ground that the city's Board of Health had no right to enforce such a regulation with respect to dairy herds kept outside of the city limits.

New York Polyclinic Medical School and Hospital.—The trustees of the Polyclinic have decided to erect a new building on the site of the old one. Funds have already been secured for this purpose and work is to be begun immediately. The building will be adapted in every possible way to the requirements of the institution, and the two upper floors will be devoted to hospital facilities. There is every reason to believe that in its new home the Polyclinic will enter upon a career even more successful than that which has characterized its existence to the present time.

The Use of Mice in Cleaning Bones.— The economic value of agencies formerly held in supreme contempt is being appreciated and utilized. Dr. Samuel H. Friend of Milwaukee, Wis., submits the following suggestion: After stripping the soft tissues as much as possible with a scalpel, place the bones either in a wooden box lined with tin, putting with them one or two dozen mice, or in a room overrun with the rodents. In a surprisingly short time the bones will be freed from all soft tissues. This method is especially adapted when it is desired to retain the spinal column and ribs intact. Tin caps over all cartilaginous ends will protect them.

Aryan Medical Etiquette and Superstitions.—"A Short History of Aryan Medical Science" has been written by a Hindu trained in Western science. From this it appears that the secret of long life is to look every morning at the reflection of your face in ghee. If you have no ghee, a looking-glass will do. "Looking eastward at meal-time" also conduces to longevity. A doctor who asks for his fee is unworthy of respect, but, on the other hand, if you do not pay him his due, your "stock of merits" will be transferred to him at your death, and his next incarnation will be just so much higher up the scale.

Funds for the New York Saturday and Sunday Association.—The association aims at interesting everybody in hospital work. The total of last year's collections was $22,190.76 from churches, and $58,919.45 from other sources. Bed patients numbering 30,700 were cared for. Of these, 23,271 were free. Medical aid was given to 250,000 free dispensary patients. The Executive Committee, in a statement, set forth that the hospital expenses of the past year were $1,323,238.15, with an income of $292,581.83 from funds invested; from paying patients, $299,996.79, and from the city, $66,047.91. The Association now embraces thirty-eight hospitals, and the collection is divided among them on the basis of free work performed by them during the year preceding on behalf of the poor.

New Medical Superintendent of the Manhattan State Hospital.—The State Civil Service Commission announces the appointment from the eligible list of Dr. Percy Bryant of Buffalo as Medical Superintendent of the Manhattan State Hospital, at a salary of $2,500 per year. Dr. Bryant is first assistant physician at the Buffalo State Hospital. He was born at Cedar Falls, Iowa, April 19. 1863, and at an early age began the study of medicine in Chicago. Later he was an interne in the Cooke County Hospital. From Chicago he went to New York, where he entered the College of Physicians and Surgeons, from which he was graduated in 1887. Two years later he went to Buffalo and entered the State Hospital as an interne. Afterward he was appointed third assistant, and finally first assistant, earning all of his promotions by merit.

A Flannel-shirt Club.—From this title, one would naturally fancy that a nautical club was meant, with members whose minds were on outings bent, but such is not the case. The matter is much more serious and worthy. It has been constantly observed that a repeated cause of suffering and often of fatal relapses among convalescent patients of the poorer class was due to the insufficient clothing with which they were discharged from the hospitals. In London a club has been formed whose members bind themselves to furnish enough flannel for a shirt, together with a small contribution in money, at least once a year. From this a shirt is made in the wards of the hospitals and each needy patient is provided with one when he receives his discharge. A more simple or practical charity has not been established.

Meeting of the American Medical Association.—The committee of arrangements for the fiftieth meeting of the American Medical Association, to be held in Philadelphia, June 1, 2, 3, and 4, 1897, desire to announce that in addition to the regular order of exercises during the meeting of the Association there will be for a week preceding and succeeding the Association meeting, special courses and clinics given in the various large teaching institutions of Philadelphia, without cost to visiting physicians. This course has been organized in response to a generally expressed wish that opportunities might be given to visiting physicians of taking clinical courses, for it is believed that many physicians from distant points would be glad to spend a week or two over and above the time occupied by the meeting in this manner. A schedule and roster describing the course in detail will be published shortly before the meeting. Further information may be obtained from Dr. Edward Martin, 415 S. Fifteenth street, Philadelphia, the Chairman of the Committee on Hospital Courses.

Officers of the New York State Board of Medical Examiners.—The following have been re-elected as officers of the State Board of Medical Examiners for 1897: President, William C. Wey, M.D., of Elmira; Secretary, M. J. Lewi, M.D., of New York City; Question Committee, George Ryerson Fowler, M.D., of Brooklyn, and M. J. Lewi, M.D., of New York. Since the existence of the present law and its active enforcement, extending over a period of five years, 2832 doctors of medicine have applied for admission to practice in this State. Under the old law all these would have been admitted unquestioned. The State Boards of Medical Examiners rejected 937 of

those who applied, or 29 per cent. The State Medical Society has nominated the following for appointment to the three vacancies existing on the State Board of Medical Examiners: William W. Potter, M.D., Buffalo; William S. Ely, M.D., Rochester; A. Walter Suiter, M.D., Herkimer; Daniel Lewis, M.D., New York, and Ernst Stoddard, M.D., Rochester.

Control of Consumption.—General Emmons Clark, Secretary to the New York Health Department, in relation to the Health Board's plan to assume control of consumption cases, says: "The various critics of the Health Department and its plan to control consumption have, in my opinion, taken a false view of the proposition made by the Board. They seem to draw the conclusion that it was our intention to surround each case with a strict set of rules and to isolate patients and remove them from their homes. Nothing is further from our intention than this. The intention is to keep a close record of all cases, and insist that proper precautions shall be taken to give the patient proper attention and see that measures necessary to prevent infection from the patient are taken. We have no intention of interfering with practitioners in charge of cases, but in cases where persons are destitute and unable to receive proper attention we will see that they are cared for. In cases of death among this class of patients, measures will be taken to disinfect clothing and apartments, so that there will be no danger of a recurrence of the disease from any cause attributable to the last patient."

CORRESPONDENCE.

ACETANILID AS A SURGICAL DRESSING.

To the Editor of THE MEDICAL NEWS.

DEAR SIR: In your issue of August 15, 1896, an article by Dr. J. J. Walsh, on "The Inhibitory Action of Acetanilid on Bacterial Growth," strongly attracted my attention: and I was equally interested in Dr. Foote's study of Formalin-gelatin, published November 14. His paragraph on acetanilid, in which he speaks of its comfortable and satisfactory action for two or three days, and of its ultimate failure to check or prevent suppuration, fully agrees with my experience. From this experience I was led to seek some addition to acetanilid which would fully inhibit suppuration. I first tried boric acid, acetanilid, and carbolic acid; but the powders were not sufficiently absorptive, and the compound was too moist and pasty. After many trials I used this: Powdered acetanilid, 48 per cent.; powdered boric acid, 15 per cent.; powdered starch, finely sifted, 35 per cent.; carbolic acid, liquid, 2 per cent. This compound, though slightly moist and adhesive, has all the effect of a dry dressing; in fact, upon a wound it is or becomes perfectly dry. Its absolute comfort leaves nothing to be desired; under its use there is not from first to last the least discomfort except a momentary smarting on the first application, too trivial to be worth mentioning. The most exquisitely sensitive sore can in a few days be handled with impunity. There is no odor, even of the carbolic acid. It absolutely inhibits suppuration where it can reach the wound surface, and it checks and quickly abolishes suppuration if that be already present. The powder should be changed twice a day as long as there is a discharge to moisten it; soon, however, the wound becomes absolutely dry, and the powder may be left for days undisturbed, and will still be found as dry as when applied, unless there is a pocket from which pus may come. Cicatrization is rapid and satisfactory.

Obviously, this powder would be unsuitable for introduction into a cavity, unless it was intended that the cavity should granulate from the bottom; and in that case the possibility of easy removal of the masses formed by the pus soaking into the powder before the wound becomes dry, should be considered. On an accessible granulating surface, and upon a sutured wound, it is the nearest to a perfect dressing I have yet seen.

W. A. FALLAS, M.D.

HORTON, MICH.,
December 25, 1896.

A REQUEST TO THE MEDICAL PROFESSION.

To the Editor of THE MEDICAL NEWS.

DEAR SIR: During the last ten years I have appealed to physicians from time to time to send me the human embryos which fell into their hands, and have in this way procured some very valuable specimens. These specimens have been cut into sections, and are now being modeled and studied very carefully. Yet a number of important stages are still wanting, and I therefore ask through your columns that physicians send me any material which they may obtain.

The best method to preserve human ova is to place the unopened ovum, without handling, and as soon as possible, in strong alcohol. By this method the embryo within is well hardened for future microscopic study.

It is very injurious to wrap these delicate specimens in cotton before sending them by mail or express. A perfect method is to place the preserved specimen in a bottle filled completely with alcohol, thus imitating the condition of a *fetus in utero*. If there be no air or cotton in the bottle, it is almost impossible to injure the embryo by shaking it.

Very sincerely yours,

FRANKLIN P. MALL,
Professor of Anatomy.

JOHNS HOPKINS UNIVERSITY,
Baltimore, Md., January 23, 1897.

OUR PARIS LETTER.

[From our Special Correspondent.]

AN INSTANCE OF GROSS MISCARRIAGE OF JUSTICE DUE TO MEDICO-LEGAL SHORTCOMINGS—SECOND ANNUAL SESSION OF THE SOCIETY FOR THE ENCOURAGEMENT OF POPULATION IN FRANCE—THE DIAGNOSTIC VALUE OF THE TYPHOID SERUM REACTION IN TYPHOID FEVER.

PARIS, January 10, 1897.

DURING the past two months, France has had a very startling lesson as to the value of expert testimony. Now that all the facts are clearly before the public and the mistaken and much condemned medico-legal experts have

had an opportunity to explain the terrible error that was made, we can realize how important for all countries is the lesson that it teaches.

The facts are about as follows: Some five years ago a woman of Rouen was condemned to penal servitude with hard labor for life for the suspected murder of her husband. Her character was bad, and she was addicted to drink. On the occasion of a previous illness of her husband she had been known to rejoice, and when he grew better she had been heard to say that he would be dead within the year, anyhow. There had been a series of quarrels between husband and wife shortly before his death.

The husband and a relative of the woman had become very sick after eating some food prepared by her. The sickness thus induced had proved fatal; in other words, there was a complete chain of circumstantial evidence implicating the wife in the crime, if crime there was. Legal measures were at once taken to bring the supposed criminal to justice. The stomach and intestines, the liver, kidneys, lungs, and brain, and a vial of blood, were sent under seal to medico-legal experts for examination. The only thing found by the experts was a series of deep erosions of the intestinal mucous membrane. These seemed to point to the action of an intensely irritant poison. No traces of the poison were found, but the experts declared that death had not resulted from natural causes but from the ingestion of some irritant poison. As examination of the various organs had proved negative in the search for traces of poison the blood was not examined chemically, but its appearance was noted as being dark in color, but not abnormal.

On the strength of this expert opinion the condemnation took place. In the statement of the case to the experts no mention was made of the fact that the house in which husband and wife lived, and in which he died, adjoined a limekiln; that, in fact, the wall between dwelling and kiln was of scarcely more than ordinary thickness. Time went on and other tenants of the same dwelling became sick and had to move. Finally, about a year ago, another death under suspicious circumstance took place, and public opinion, then thoroughly aroused, demanded an exhaustive investigation. Professor Brouardel and Drs. Ogier and Descoust of Paris, all well known as medico-legal experts, and the first a well known authority on legal medicine, were given charge of the investigation. They found that the last death was due to carbonic oxid poisoning, the gas being formed in large quantities during the incomplete process of combustion in the limekiln and diffused through the party wall into the adjoining living apartments. Asked to review the findings in the former supposed murder case, they declared that too to be undoubtedly a case of carbonic oxid poisoning, though with some anomalous features. For over six years the poor victim of incomplete investigation, legal misunderstanding, and unfortunate combinations of circumstances, had been suffering the severest penalty possible in France for a crime she had not committed. Her condemnation was revoked, her innocence formally declared, and she was awarded large compensatory damages, which might have benefited only her heirs but for the prejudice in France against capital punishment in the case of women.

The newspapers generally have very severely condemned the medico-legal experts in the case, but a dispassionate review of the circumstances shows the legal lights engaged in the case to be at least as blameworthy.

Before the explanatory statements of the experts, which appeared only a few days ago, it might have been thought that the error was merely a personal one due to overhasty judgment and the drawing of conclusions not justified by the facts in the case, but now it seems clear that the fault lies in the fact that owing to merely business relations, as it were, existing between court and experts, neither party was sufficiently informed as to important details, and the error resulted for which both must share the responsibility.

In sending the specimens to the experts the court said nothing of the presence of the limekiln near the scene of the supposed crime, and the attorney for the defense made no use of its possibilities, either in his general defense or his special plea. They do these things very differently with us, even when the clients are as poor as the defendant was in this case. The experts only gave an opinion that was justified by the *post-mortem* appearances as they had been interpreted by the authorities in legal medicine up to that time. Severe intestinal lesions of an erosive character had never been described as occurring in carbonic oxid poisoning. The dark color of the blood that comes with the presence of carbonic oxid instead of the rose-red tint, and its normal coagulation, instead of remaining fluid, removed the only clue that might have aroused suspicion of the true nature of the poison that had caused death.

The whole case is extremely interesting and points out the necessity, on the one hand, of giving detailed information to medico-legal experts of all the circumstances connected with the case, and, on the other hand, for the expert to frankly state the limitations of certainty in his conclusions where many of the findings are negative, even though suspicious lesions may exist.

Just before the close of the year the second annual session of the Society for the Encouragement of Population in France attracted a good deal of attention. Recent statistics show that as regards increase in population France is scarcely holding her own. In 1895 the excess of births over deaths, in the whole country, was scarcely more than 125,000. Most Frenchmen, I think, would not bother their heads about this were it not that in Germany during the same year the excess of births over deaths was more than 1,000,000. Public attention has been called to this very forcibly and now determined efforts are being made to have motives of patriotism if possible take the place of the other motives that are usually so effective, but which have lost their efficacy in France, for the propagation of the race.

Public interest took the shape of discussions in the newspapers of the causes that prevent the increase of population, and in these the doctors came in for their share of blame. Increase in the number of abortions, and the spread of medical knowledge in the shape of prophylaxis,

were set down as potent factors in the impending depopulation, and these were both attributed to medical influence by the rather hysterical French press. As to the first, the evil probably exists in no greater proportion here than elsewhere; as to the second, the French disinclination to have large families has led to the filtration of Neo-Malthusian doctrines from the higher classes to the lower, so that now a family of more than three in the city is a marvel. "France," as remarked a recent writer whose work attracted a good deal of attention, "is a country of only sons who do not marry."

The wealthy do not care to have large families because *Madame* cannot afford the time and *Monsieur* cannot afford the money to dower his daughters, and neither wish to be compelled to divide the patrimony among more than two or three. The poor, who, as it is, find it hard enough to get along in the overcrowded cities, have learned the lesson from their betters, or at least their superiors in caste and intelligence. Only a few of the middle class, the despised *bourgeois*, have more than four in the family and *Voila! la France que commence a depopuler!* It is wrong to attribute anything of this state of affairs to the medical profession, or to ideas that originate with its members. The fault lies, not with any particular class or profession, but in that profound disregard for details in practical social morality which has so deeply invaded all classes in France.

And now come the remedies for the social disease. Not very promising ones, verily. Sumptuary laws for the remittance of taxes on families with more than a certain number of children have been advocated. Then a proposal has been made, which is very popular, to the effect that the state should assume the expense of the education of all children more than three in number in a family. A series of suggestions, drawn from the famous laws of Augustus, when the same state of affairs existed in imperial Rome, have also been brought forward. Everyone knows how ineffective were the Augustinian decrees, and one need not be a prophet or the son of a prophet to tell what the result will be here. The evil lies deeper in the body politic than these superficial remedies can reach. Meanwhile, for other countries there is the practical lesson of the result of certain tendencies in our modern civilization, seemingly of slight importance as yet, but surely impending, and which the medical profession, owing to its intimate relations with family life and affairs, would seem to have a special duty to avert as far as is possible.

A good deal of medical literature just now is taken up with the discussion of the diagnostic value of the typhoid serum reaction in typhoid fever. Most writers, especially Americans, have agreed in attributing the cause of the reaction to antitoxins present in the blood. It is the presence of products in the blood elaborated by nature in her reactive effort to protect the organism against the bacillus that gives rise to the clumping of the bacilli in the presence of the serum, and this clumping is really a degenerative process. While such was the opinion over here until recently, it is gradually being modified. The reaction has been noted in cases of relapse of typhoid just when the first fever symptoms of the relapse declared themselves. It occurs in all cases at such an early stage that even Widal himself has now come around to the opinion that it is rather a phenomenon of infection than one of protective reaction. This may be even more important than if it were merely a commencing bactericidal action, for while bactericidal phenomena have been studied often enough already, opportunities for the study of infective phenomena have been lacking because of the difficulty of knowing where to look for them.

OUR PHILADELPHIA LETTER.

[From our Special Correspondent.]

SIGNIFICANCE OF THE KLEBS-LOEFFLER BACILLUS IN CHRONIC NASAL DISCHARGES—THE SCHOTT TREATMENT OF HEART DISEASE—UNIQUE SPECIMEN FROM THE STOMACH OF AN IDIOT—OBLITERATED INNOMINATE ANEURISM—RETROPERITONEAL SARCOMA—FLECHSIG'S DISCOVERIES IN CEREBRAL LOCALIZATION—ANTIVIVISECTION SOCIETY "EN GARDE."

FEBRUARY 1, 1897.

AT a stated meeting of the Philadelphia County Medical Society, held January 27th, Dr. Eugene L. Vansant made a report of the results of a bacteriologic investigation of the nasal mucus of 100 cases of chronic nasal discharge. In twenty-six per cent. of the cases examined, the Klebs-Löffler bacillus diphtheriæ was present. Streptococci and various pus organisms, as well as numerous non-pathogenic bacteria, were found in a large majority of instances. Conjecture was made as to the possibility of a causal relation existing between the presence of the Klebs-Löffler bacillus and the chronic nasal discharge with its attendant impairment of vitality. Discussion of the paper brought out the facts (1) that at present animal inoculation is not required to establish the identity of the Klebs-Löffler bacillus, its morphology and behavior towards media, etc., being sufficient for that purpose; (2) whether the clinical picture be of true diphtheria or of chronic nasal catarrh depends on the *virulence* of the infecting bacillus diphtheriæ in each separate case, due credit being given in each instance to the individual's powers of resistance, rather than to the fact that the infection is due in the first place to the true bacillus of diphtheria, and in the other to the pseudo bacillus.

Dr. Andrew J. Downes exhibited a portable cylinder of acetylene gas for surgical illumination, and a self-retaining double-bladed wire vaginal speculum. Dr. S. Solis-Cohen presented the Schott method of gymnastics in the treatment of heart disease. By a series of gently resisted and restricted gymnastic movements of the trunk and limbs, aided by a course of systematic bathing, the peripheral vessels are stimulated and the heart's action reinforced, the rhythmical muscular contractions entering as an added factor to the pumping power of the heart, and the baths giving tone to the sluggish circulation in the periphery. The history of marked improvement in the patients presented by Dr. Cohen proved beyond a doubt that the treatment carried out by the exercises alone had proved eminently satisfactory. Dr. J. Madison Taylor quoted reports of cases showing the efficacy of this

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treatment of heart disease, and thought that it might also be of use in the vaso-motor ataxias. Dr. John H. Musser presented diagrams illustrating the decrease of cardiac dulness consequent upon a very limited course of the Schott gymnastics in a severe case of endocarditis with enlargement. In concluding the discussion, Dr. Cohen said that the only contra-indications to the treatment were advanced atheroma, arterio-sclerosis, and aneurism of the aorta.

At a stated meeting of the Pathological Society of Philadelphia, held January 28th, a unique specimen taken from the stomach of an idiotic boy was shown by Dr. Clarence White. It was shaped like a huge cigar, being 5 inches long by 1½ inches in diameter, and was made up of a tightly rolled mass of string, pieces of leather and the like. Curiously enough, the gastric mucosa was practically normal, section showing, however, an increase in thickness of the muscular coat from the futile efforts of the stomach to force the foreign body through the pylorus.

An obliterated innominate aneurism was exhibited by Dr. D. D. Stewart. The specimen was interesting from the fact that a number of years ago Dr. Stewart had inserted 10 feet of fine gold wire into the aneurism, when rupture seemed imminent, and by passing a current of electricity through the wire had caused the formation of a clot, with subsequent obliteration and cure. The patient had died very recently from hemorrhage from the middle cerebral artery.

In presenting specimens from two cases of perforation of the intestine in typhoid fever, Dr. D. L. Edsall adduced the fact that in one case the perforation had occurred during the plunge given in the course of the Brand treatment. During the discussion on the subject the conclusion was arrived at that if the diagnosis of perforation were made before general peritonitis had set in, surgical interference would at least be justifiable.

Dr. W. E. Hughes exhibited specimens showing a perforated duodenal ulcer, and a retroperitoneal sarcoma. Early in the history of the latter case the diagnosis of varicocele had been made, due to the fact that the symptoms pointed clearly toward that condition. The discussion of the case brought out the fact that the condition is always one peculiarly difficult to diagnosticate, also that in some instances a pronounced leucocytosis of the blood is noticed.

Dr. Alfred Stengel presented an amebic abscess of the liver, and demonstrated the presence of the amebæ. Always difficult to fix and stain, Dr. Stengel was able to show, not only the ordinary forms of the ameba, with its vacuoles, but also the peculiar reaching out of the ectosarc before division occurs.

Dr. Barker of Johns Hopkins University, Baltimore, read a paper before the Neurological Society, January 25th, reviewing Flechsig's work and discoveries in cerebral localization. Mentioning his methods of medullary staining as being accurately confirmed by the work done on central degenerations, Dr. Barker gave in detail the areas of the cortex cerebri mapped out by this mode of investigation. The newly discovered portions have mainly to do with sense perception, and occupy but a limited part of the external surface of the cerebrum. They are divided into three parts, the central and larger corresponding roughly to the ascending frontal or ascending parietal lobes, the anterior to the foot of the third frontal convolution, and the posterior to a limited portion of the tempero-sphenoidal lobe. Between the three are the two large association areas of doubtful function.

The American Antivivisection Society held its annual meeting in this city on January 29th. Dr. Matthew Woods, the president, in his annual address, said vivisection was undoubtedly on the increase, as shown by the greater number of experiments recorded in medical journals and by the efforts made by those connected with Pasteur institutes, and certain manufacturers, to create a demand for antitoxins. He recommended that the Society change its method of combating the evil, and search out, under capable medical direction, all varieties of cruel work by vivisectors and give it the widest publicity, mentioning the name and address of the perpetrator in every case.

TRANSACTIONS OF FOREIGN SOCIETIES.

Berlin.

CAN THE CARDIAC MUSCLE BE STENGTHENED BY EXERCISE?—A SUPPOSEDLY BENIGN POLYP FOUND TO BE MALIGNANT UPON MICROSCOPIC EXAMINATION—ABSCESSES FOR ONE YEAR AFTER INJECTION WITH DIPHTHERIA SERUM.

HIRSCHFELD discussed the possibility of *strengthening a weak heart by means of exercise* at the session of the Union for Internal Medicine held December 21, 1896. This idea was first advanced by Oertel. It does not apply to cases of valvular affection nor to those hypertrophies which follow luxurious living. In these latter cases partial starvation produces the best result, which explains the benefit derived from milk cures. Zuntz who investigated experimentally the influence of exercise upon the heart found that the increase in power of the voluntary muscles greatly exceeded the increase in power of the heart. In compensatory failures rest is indicated because the patient already has over-exerted his heart. But long-continued rest in old people acts unfavorably, as the physiologically necessary stretching of the heart-muscles is thereby omitted, while, on the other hand, increased bronchitis gives the right heart more work to do. In any case muscular exercise should be increased gradually, while its effect upon the heart, especially in stout people, is frequently observed.

At the session of the Medical Society held December 16, 1896, FALK presented a carcinomatous polyp which had been removed from the posterior wall of the cervix uteri of a woman aged forty-five years. The interest in the preparation lay in the fact that a small portion of the polyp was found upon microscopic examination to be distinctly carcinomatous. The uterus was therefore removed. At the point of attachment of the polyp there was a round-cell infiltration. Otherwise the organ was normal. The importance of microscopic examination of all polyps apparently benign was brought forward.

GENSICHEN referred to *an unpleasant personal ex-*

perience with Behring's serum. In November, 1895, he fell sick with diphtheria, and in order to hasten his recovery he injected into the left side of his abdomen, under aseptic precautions, a syringeful of Behring's serum, No. 2. Recovery from diphtheria was prompt. During the next three weeks he suffered from a terrible thirst without fever. Then there developed on the left side of his body, from the point of the injection to the axilla, large abscesses. These came slowly to a head, broke, and after a few days healed, while new ones constantly formed. For six months they were confined to the left side and then appeared also on the right side. More than a year later they were still forming, although their intensity had greatly diminished. Gensichen expressed himself as deeply impressed with the evil results which may follow the use of serum, and thought that its prophylactic use should be done away with.

This case called forth a lively discussion. VIRCHOW, who examined the pus from some of the abscesses, stated that he had not been able to find any trace of the bacillus of glanders but the pus contained almost a pure culture of staphylococcus. Similar cases of multiple abscesses of a chronic form are not uncommon as a result of infection from dead bodies. He was of the opinion that the infection was due to the injection but not to the serum.

EWALD also mentioned cases in which in spite of antiseptic precautions, abscesses followed injection and continued to form throughout several months.

HEUBNER, BAGINSKY, and KATZ, were also of the opinion that this case proved nothing against the use of preventive inoculations of diphtheria serum. Variot and Sevestre had made over four thousand inoculations without any serious results.

London.

TREATMENT OF CANCER BY DRUGS—THROMBOSIS IN TYPHOID FEVER—THE PLAGUE—MALIGNANT PAPILLOMA OF THE KIDNEY—DECREASE OF MALARIA IN LONDON—SURGICAL TREATMENT OF PNEUMOTHORAX—BIRDSHOT ENCAPSULATED IN THE EYE—PAROXYSMAL TACHYCARDIA.

EUSTACE read a paper on *the treatment of cancer by drugs* before the Southeastern Branch of the British Medical Association at a meeting held December 10, 1896. He related a case in which he had treated a rodent ulcer of the side of the nose. The tumor was of six years' duration and had recurred after excision. Chlorate of potash was administered internally, and a saturated solution of the same salt was kept upon the wound. In three days the improvement was remarkable and the ulcer was completely healed at the end of a week. There has been no recurrence in the two years which have since relapsed. Although in no way affecting his preference for the operative treatment of cancer the author thought such instances as these are not to be looked upon as mere coincidences. They ought to be fully investigated and reported.

GOSTLING spoke of *thrombosis in typhoid fever* which he said might occur either as a sequel or a complication of the disease. In the former case the prognosis is much more grave than in the latter. Thrombosis as a sequel occurs most frequently in the external and common iliac and femoral veins, which may be felt as solid cords. The symptoms are pain and tenderness in the region of the vein, with swelling and edema of the limb. The temperature is about one degree above normal. The symptoms subside in a week or ten days.

Thrombosis as a complication gives an entirely different picture. Rigors, which are often repeated, irregular temperature, frequent and irregular pulse, irregular respiration, and a mental condition apprehensive of death are the usual symptoms. Death preceded by coma occurs in the large majority of such cases. The danger in complicating thrombosis lies in the breaking down of the infected clot and consequent pyemia.

CANTLIE addressed the Epidemilogical Society December 18, 1896, on the spread of the plague. His paper has already been published in full in the MEDICAL NEWS of January 23, 1897. In the discussion, Lawson, whose experience in this disease extends to over five thousand cases, said that he had never been able to find plague-bacilli in the soil. He believed that the popular idea that an epidemic among rats precedes each epidemic among men is unfounded. Men and rats are affected simultaneously, but the disease runs a more rapid course in rats than in men.

PAYNE said that the description of these recent epidemics corresponds closely with those in Europe in former centuries. He thought that the practical immunity of India is accounted for by the fact that the isothermal line of 78° only just touches the north of India. It has long been held that a persistent high temperature will stop an epidemic.

At the session of the Pathological Society of January 5th, DREW described a *villous papilloma of the kidney, ureter and bladder*, in a man aged fifty-six, who for 3½ years had suffered from renal colic in the left side, and profused hematuria. The kidney was opened but no calculus was found. For 2½ months the wound discharged pus containing epithelium. At autopsy the left kidney was found hydronephrotic from obstruction, due to the villous growths in the renal pelvis, ureter and bladder. The author thought that the growth had begun in the pelvis of the kidney and had subsequently extended downward. Its malignant character was shown by the large lymphatic glands adherent to the kidney and extending upward along the aorta. Secondary nodules were also found in the liver. Drew had collected eight examples of papillomata of the pelvis of the kidney, some which were associated with the presence of calculi.

At a meeting of the British Balneological and Climatological Society held December 9, 1896, EWART read a paper on the *decrease of malaria in London*. This decrease has gone on since the end of the eighteenth century, but has been especially marked during the last forty years. The author sent out circulars to all the medical institutions of London, and the answers received gave the clearest evidence of the disappearance for many years past of the "London ague," and of the rarity even of any imported cases. The general conclusion was that ague has been dying out not only in London but also in those country districts previously notorious for their malaria. Various causes have been assigned for this decrease, such as

systematic drainage and sanitary reform, as well as the improved hygienic and material conditions of the people. These factors, however, do not entirely account for the present remarkable immunity from malaria which bids fair to be reckoned in England within a few years as one of the extinct diseases.

BLAND SUTTON read a paper on *wandering spleens* at a meeting of the MEDICAL SOCIETY held January 11. The cause of the increased mobility is little understood, but it is noticeable that wandering spleens are most frequently met with in women who have borne children. The effects upon the spleen are (1) engorgement to a varying degree; (2) axial rotation, which if acute causes the same symptoms as occur in acute rotation of an ovarian cyst or in strangulated hernia; (3) atrophy, which occurs if the torsion is sufficient to obliterate the splenic artery. Symptoms due to the traction of the spleen on other organs may also be present. Diagnosis is difficult. A spleen in the pelvis has more than once been taken for a fibromyoma of the uterus. Sutton spoke of splenectomy as an entirely justifiable and highly successful operation. He had collected reports of a score of such operations performed without a death. Attempts made by a number of surgeons to suture the spleen in the left hypochondria showed clearly that this operation is a more dangerous one than splenectomy and that recovery from it is not so prompt. He regarded the spleen as a highly specialized lymph gland and saw no greater objection to its removal than would apply to a mass of enlarged glands. He had never seen in his own cases any evil manifestations follow its removal.

BALLANCE mentioned a case in which the patient rapidly recovered from the immediate effects of splenectomy, but after about ten days began to suffer from moderate pyrexia, quick pulse, anorexia, emaciation, loss of strength, increased quantity of urine, and griping pains in the abdomen. The leucocytes were greatly increased. He had seen the same symptoms in two adult males after excision of the spleen for rupture, while a boy whose spleen he had removed did not present these symptoms. Old dogs suffered similar symptoms after splenectomy but young animals did not. The condition of the blood became normal in his cases in about ten weeks, and ultimately all the patients completely recovered their weight and health. Some of these patients were fed after operation on raw or slightly toasted spleens.

SUTTON could not believe that a diet of spleens could have any effect in relieving patients of the symptoms Ballance spoke of. In none of his own cases had he observed such symptoms. The patients were all thin before operation, but did not show afterward any increase in emaciation.

WEST read a paper on *pneumothorax* based upon three sets of statistics including in all 164 cases with a death-rate of about seventy per cent. The causes of death were three-fold according as it was due to (*a*) the pneumothorax itself, (*b*) the resulting empyema; (*c*) the disease which caused the pneumothorax, namely, phthisis. Most statistics give a percentage of recoveries of not more than ten per cent. The most favorable class of cases includes those in which no effusion takes place and the air is simply absorbed. In the next favorable class, the effusion is serous and may be absorbed without paracentesis. If the effusion is purulent the prognosis is more grave, but recovery is still possible, especially after early operation. Cases of recovery were cited to illustrate these three classes.

DUCKWORTH thought that the presence of pus in the pleural cavity is less harmful than might be expected and he therefore discouraged interference in such cases.

HALL said that rest in bed with the administration of laxatives to prevent straining at stool was the only treatment required.

FOWLER and HUBBARD also advised against operative interference.

WEST maintained, however, that early removal of the pus by modern methods is advantageous in many cases. Good results can no more be expected in neglected pyopneumothorax than in neglected empyema.

CARTER reported to the Clinical Society January 8th a case of *gunshot wound of the eye* in which two pellets of birdshot were retained and incapsulated with preservation of sight. They penetrated the lower eyelid and pierced the sclera below the cornea. Carter saw the case two days after the accident, and after dilating the pupil was able to see that the retina had been wounded. An expectant treatment was pursued and the eye recovered without inflammation or trouble of any sort. He thought that the shot had been sterilized by heat and possibly cleansed by passing through the lower eyelid. Although he did not know of any precise observation as to the temperature of heated missles, as a matter of practical experience he had seen several cases in which heated pieces of metal had penetrated the lens and had remained there as sterile bodies without exciting inflammation. He thought it was always safe to pursue expectant treatment for about three weeks as sympathetic ophthalmia rarely occurred before that time.

HERRINGHAM described a case of *paroxysmal tachycardia* in a girl aged eleven. The attacks, to which she had been subject for five years, began suddenly without apparent cause. They lasted for periods varying from thirty-six hours to thirteen days and always ended during sleep. In an attack the pulse was small and soft and could not be counted. Pulsation of the heart was very forcible and occurred from 240 to 260 times a minute. There was little or no pain. Respiration was rapid but there was no sigh of pulmonary or general edema. During a paroxysm sleep was restless, and did not alter the cardiac rate. The patient was a big, plump, rosy girl, but some enlargement of the heart could be made out, and from the study of this case and of other reported cases, Herringham was inclined to believe that these hearts were structurally unhealthy. In this case treatment by various drugs had utterly failed to prevent the recurrence of the paroxysms. The Schott treatment by baths and exercises proved equally useless, nor did it reduce the size of the heart.

WEST said that almost all of these patients had dilated hearts. He mentioned the case of a policeman who al-

though able to remain on duty during his paroxysms, yet developed at these times cardiac murmurs which could be heard at a distance of two feet.

SOCIETY PROCEEDINGS.

NINETY-FIRST ANNUAL MEETING OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

[Concluded.]

Held in Albany, January 26, 27, and 28, 1897.

[From our Special Correspondent.]

JAMES D. SPENCER of Watertown, President.

SECOND DAY—WEDNESDAY, JANUARY 27TH.

(MORNING SESSION—*Continued.*)

E. K. DUNHAM, M.D., of New York, discussed the

METHODS OF PREVENTION OF POLLUTION OF WATER.

He said that as the usual streams of water were the natural drains we could not, in practice, exclude contamination from sewage, hence we must destroy it. This is best done by putrefaction, if allowed to take place in the superficial layers of the soil, in contact with an abundance of oxygen.

F. C. CURTIS, M.D., of Albany, read a paper on the

LIFE HISTORY OF THE TYPHOID BACILLUS OUTSIDE THE BODY.

He said that the typhoid bacillus is an easy prey to many other bacilli, and its complete extinction in a sewer is only a matter of a few days. There is no ground for belief that these bacilli are present in sewer-air; these germs are not inhaled, but ingested. The typhoid bacillus retains its vitality in running water for a long time, and is not destroyed by freezing.

J. S. ELY, M.D., of New York, discussed the

BACTERIOLOGICAL DIAGNOSIS OF TYPHOID FEVER.

He said that, according to some observers, the typhoid bacillus could be detected in the urine of a typhoid fever patient in at least fifty per cent. of the cases examined. Puncture of the spleen is so dangerous as to be hardly justifiable, but certainly in a large percentage of cases the typhoid bacilli could be found in blood from this source. At present, the serum diagnosis by means of an examination of the blood, offered the best prospect of rendering valuable assistance in diagnosis.

W. P. NORTHRUP, M.D., of New York, read a paper on

TYPHOID FEVER IN CHILDREN.

Referring entirely to children not over two years old, he said that out of 2000 autopsies that he had made on children under three years of age, he had not once met with evidences of typhoid fever, and during twenty-five years not a single case had been recorded among the large number of children at the New York Foundling Asylum. As about 1100 children from this institution are placed out to nurse in the tenements, it was certain that many children must have been exposed to typhoid infection. In the Stamford epidemic of last year he had seen, out of 400 cases there, three undoubted instances of typhoid fever in young children.

W. G. THOMPSON, M.D., of New York, presented a paper on the

IMPORTANCE AND PRACTICAL METHODS OF DISINFECTION OF EXCRETA OF TYPHOID PATIENTS.

He said that the most generally useful disinfectants for cases of typhoid fever were corrosive sublimate (1–500) and carbolic acid (ten per cent.) solutions. The former was injurious to the plumbing, and unless rendered acid, was liable to be materially weakened by the formation of an albuminate. The bed-pan should always contain some of the disinfectant, and after defecation, the perineum should be cleansed with corrosive sublimate solution. Thermometers, rectal tubes, and enema syringes, should also be disinfected, and the bed-clothing, bath tub, and nurse's hands, should not be overlooked in this connection. The stools should be disinfected for at least ten days after the temperature has permanently dropped to the normal. In the country the stools should either be mixed with sawdust and cremated or buried in a trench four feet deep.

PROFESSOR WILLIAM T. SEDGWICK, of the Massachusetts State Board of Health, spoke of several unsuspected sources of water contamination, *e.g.*, bathers using bodies of water used for water supply; carelessness of crowds at picnic grounds bordering on lakes, etc. He stated that whereas formerly typhoid fever was rampant in the city of Lawrence, Mass., now, since the introduction of a municipal filter in the water system this disease had almost disappeared.

AFTERNOON SESSION.

J. H. GLASS, M.D., of Utica, read a paper on

DOUBLE MURPHY BUTTON ANASTOMOSIS.

He reported several cases in which he had used this device, and asserted that not only his personal experience, but the records of many surgeons showed that no method was so rapid and so certain as that with the Murphy button.

L. B. BANGS, M.D., of New York, reported

SOME CLINICAL CASES OF DISEASE OF THE TESTICLE.

(See page 161.)

B. FARQUHAR CURTIS, M.D., of New York, said that enlargement of the testicle might be due to tuberculosis, syphilis, or a neoplasm. Exploratory incision should be used early in all doubtful cases.

EUGENE BEACH, M.D., of Gloversville, reported

A RARE COMPLICATION OF ACUTE RHEUMATISM.

A healthy man, immediately after sleeping in a damp room and bed, developed a tender swelling of one testicle. After three weeks he had pain on the outer side of both thighs, and two weeks later a mild cystitis and urethritis. This was followed by an exacerbation of the orchitis, and five days later by a pronounced attack of acute articular rheumatism. Careful investigation failed to show any infection.

H. S. DRAYTON, M.D., of New York, presented some

NOTES OF CASES IN SUGGESTIVE (HYPNOTIC) THERAPEUTICS.

As a result of years of study, Dr. Drayton said that he had come to the conclusion that the hypnotic state is consistent with man's physiology, and is not a pathological phase of either mind or body; also, that in hypnotic suggestion we have an agency of almost unlimited power in the treatment of many diseases. Reports of several cases were read in illustration.

DR. WM. JAMES MORTON of New York said that he had learned first of hypnotism from Charcot, and had practised it largely for years, but he had become convinced that it was a most pernicious practice, because it diminished the patient's power of resistance and lowered him both morally and intellectually—in other words, the remedy is worse than the disease.

DR. DRAYTON replied that we should employ hypnotism just as we would other powerful and dangerous remedies. It was not necessary to go so far as to break down the patient's will.

A. M. PHELPS, M.D., of New York, read a paper on

THE MANAGEMENT OF CLUBFOOT.

He advised that *immediately* after the birth of the child with clubfoot the treatment of the foot should be begun. The foot should be placed by manual force as nearly as possible in the normal position, and held there by means of strips of adhesive plaster and a roller bandage. If a continuance of this treatment fails to effect a cure by the time the infant is three months old, the surgeon should at once operate. The operation should consist in a series of tenotomies, beginning with the tendo Achilles. Every resisting structure should be cut successively until the foot can be *super*-corrected. If only corrected, the weight of the body will cause relapse. Having secured super-correction, the only apparatus needed is a plaster-of-Paris shoe. If it is impossible to super-correct the foot, a machine should be used to aid the hand in correcting the deformity, using, if necessary, a force of 1200 or 1500 pounds. The surgeon should, in these difficult cases, cut the anterior division of the deltoid ligament and the long peroneus tendon. Where there is actual bone deformity, it may be necessary to divide the neck of the astragalus, take a wedge out of the os calcis, remove the cuboid and scaphoid bones, or lastly, to perform Pirogoff's amputation. In 500 cases of "open operation" for clubfoot, he had found it necessary to perform osteotomy in only seventeen cases.

RECTAL DISCUSSION.

JOSEPH M. MATTHEWS, M.D., of Louisville, Ky., opened this discussion with a paper entitled

STRICTURE OF THE RECTUM; ITS ETIOLOGY AND TREATMENT.

He first replied to some criticisms of Dr. Kelsey. He said that every authority now believed that stricture of the rectum originates as a secondary or tertiary formation. He did not believe that stricture of the rectum could occur from the extension of a chancrous process. Undoubtedly stricture occasionally results from inflammation produced by trauma. In an experience of nineteen years with rectal diseases, he had not met with a single case of stricture that could be attributed to dysentery. From a pathological standpoint the rectum could not often be the seat of such a stricture. When a connective tissue stricture had once formed, no amount of treatment would cure it.

DANIEL LEWIS, M.D., of New York, continued the discussion with a paper on

THE SURGICAL TREATMENT OF CANCER OF THE RECTUM.

He said that in every case of cancer of the rectum one must decide (1) as to the general condition of the patient; (2) the extent to which the adjacent organs and tissues are infiltrated; and (3) what operation is best if complete removal be indicated. Operation, in his opinion, was not justifiable unless there was a good prospect of the disease being completely removed. The disease should not extend above the peritoneal pouch, or implicate the bladder or vagina, or the inguinal glands. The speaker preferred the Volkmann to the Kraske operation, believing it to be less dangerous.

ROBERT T. MORRIS, M.D., of New York, discussed

THE PROPER METHOD OF TREATING INTERNAL HEMORRHOIDS.

He presented a condensed classification of the anatomical, pathological, and physiological points involved, and showed that we should not do the Whitehead operation, or the so-called American operation, as it removes the structures carrying the special rectal sense. If primary union were not secured, grave complications would arise from the contracting scar. Injecting piles with carbolic acid or astringents is very dangerous, as septic emboli are liable to be carried to the liver or heart, and the sloughing may be uncontrollable. Crushing methods expose the patient to septic embolism and septic infiltration. The clamp and cautery method was successful in a few expert hands, and was less dangerous, but healing was often tedious. In his opinion the two best methods were, (1) ligation and excision of the pile tumor, and (2) excision of the piles and suture of the incisions. The latter was his favorite method.

GEORGE R. FOWLER, M.D., of Brooklyn, read a paper on

PROLAPSE OF THE RECTUM,

which will appear in a future number of the MEDICAL NEWS.

DR. B. FARQUHAR CURTIS said that most surgeons would agree with Dr. Matthews regarding the etiology of stricture of the rectum. He would agree with Dr. Lewis regarding the suitability of operating from below in cases of epithelioma of the anus, but for higher strictures such a method would involve an unnecessary sacrifice of the sphincter.

The speaker stated that the operation of colotomy or colostomy was done for two indications, *viz.*: (1) To overcome obstruction low down, and (2) to divert the contents of the bowel from the ulcerated surface. Fulfilling this second indication resulted, in exceptional cases,

in a complete cure of ulceration of the rectum. An improvement—sometimes very marked—almost invariably follows colotomy, but the amount of relief will depend, to some extent at least, upon the temperament of the individual. Without doubt this operation prolongs life in cases of malignant disease; nevertheless, extravagant claims had been made for colotomy in this class of cases. If the mechanical obstruction was so great as to indicate the need of an artificial anus, colotomy should be performed, but only under these circumstances.

Dr. James P. Tuttle, of New York, said that out of his record of 200 cases of stricture of the rectum, sixty-eight per cent. were non-malignant, and about the same percentage of these were non-syphilitic. He had yet to see the proof that a single case of stricture of the rectum can occur without previous syphilitic ulceration. The evidence of such ulceration was to be found in the presence of bluish-white cicatricial tissue just below the stricture. There is no such cicatricial condition in malignant disease. Resection of the rectum is the only safe means of curing connective tissue strictures. From 1885 to 1891, or just after the introduction of Kraske's operation, 500 cases were reported—300 perineal and 200 sacral operations. The mortality then from the former was 16, and from the latter, 19 per cent. From 1890 to 1896, he had reports of 175 unpublished operations in this country. These gave a mortality of 11.5 per cent. by the sacral, and a little over 10 per cent. by the perineal method. The high operations are but little more dangerous than those for disease lower down; the prognosis depends, not upon the height to which the disease extends, but to the amount of involvement of neighboring organs. In operating, he preferred the osteoplastic method, and dissected out the whole gut before opening it.

Dr. Matthews, in closing the discussion, said that a far better method of treating prolapse of the rectum in infants than the use of nitric acid or the actual cautery, consisted in giving a preliminary purge, and then keeping the little one in bed for six days with a dozen strips of adhesive plaster across the nates.

Maurice H. Richardson, M.D., of Boston, presented a paper on

ACUTE INFLAMMATION OF THE GALL-BLADDER.

He said that he had only met with this rare disease five or six times, yet its onset was violent and relief was urgently demanded. The cause is an invasion of the gall-bladder by microörganisms, most commonly the colon bacillus. The source of the infection is probably the duodenum, although the blood is a possible channel. In these cases of acute infection the gall-bladder becomes quickly distended, and assumes a cylindrical shape, and because of this, usually assumes a position in which it escapes the palpating finger.

The symptoms are sudden, severe and paroxysmal pain to the right of the epigastrium, followed by vomiting, diffuse tenderness, abdominal distension, constipation, acceleration of the pulse, and elevation of temperature. The pain is often not exactly in the region of the gall-bladder. The condition may be very easily confounded with appendicitis.

The treatment should consist in immediate operation. The incision should be made about half way between the appendix and the gall-bladder, and the fundus of the latter should be sutured to the edge of the incision. The gall-bladder should then be freely opened, drained, and washed with sterilized water.

In these acute cases the prognosis is grave without interference, but with interference is encouraging.

Dr. A. Vanderveer said that he had met with two of these fulminating cases, and in both he had drained an abscess of the gall-bladder with good result.

Dr. George R. Fowler said that he had operated in three of these acute cases under the belief that he was dealing with appendicitis. In cases where the fistulous opening persists, the only remedy after this operation is total excision of the gall-bladder.

Dr. W. G. Macdonald and Dr. Wm. R. Howard, reported similar cases.

James Spencer, M.D., of Watertown, the President of the Society, delivered the anniversary address, taking for his theme

THE COUNTRY DOCTOR.

He said that the country doctor may theorize, but he must ever be practical; not having the benefits of free consultation with eminent brethren in the profession, he must stand absolutely on his own merits. There is no hospital, with its corps of trained nurses to assist him, and no daily papers to herald his successes. Yet his arduous life has its compensations. We all know how pain and terror vanish in the presence of the physician; the most intimate secrets are confided to his keeping, and wounds not only of the body, but of the soul, are laid bare before him. The country doctor must, indeed, be a man of many parts—a drudge, a hero, a martyr oft-times, for the cause he represents. He has a large sphere for usefulness in pointing out to his fellow men how they may best avoid disease. But unless the physician is constantly watchful concerning his own mode of living, it will not be long before he is met with the cry, "Physician, heal thyself."

THIRD DAY—THURSDAY, JANUARY 28TH.

Wm. James Morton, M.D., of New York, offered a resolution for

THE ABOLITION OF THE NOMINATING COMMITTEE.

He asserted that members of this committee came to Albany already instructed for whom to vote, and, as a result, the Society at large was slaughtered by machine politics. The resolution was referred to the Committee on By-laws.

PLACE OF MEETING.

O.F. Kintoch, M.D., of Troy, offered an amendment making it obligatory for the Society to meet alternately in New York, Albany, and Buffalo. This was also referred to the Committee on By-laws.

J. B. Ransom, M.D., of Dannemora, read a paper entitled

THE NECESSITY OF NEW METHODS OF EARLY DIAGNOSIS IN TUBERCULAR DISEASE TO CURATIVE TREATMENT.

He said that there was a great need for a harmless but sure test for the presence of tuberculosis in the human being. Among cattle, tuberculin was looked upon as an excellent test. He believed tuberculosis to be a largely curative disease, and one which was, to a certant extent, self-limited. There was no good reason at the present time for believing that the presence of tubercle bacilli justified a fatal prognosis.

The treatment should be prompt and energetic, and carried out carefully, in the full belief that the disease could be cured. The treatment naturally divided itself into: (1) climatic, (2) nutritive, and (3) medicinal. He believed that in a locality for the climatic treatment of tuberculosis there should be not only an equable temperature and pine woods in the neighborhood, but there should be winds of sufficient velocity to keep the atmosphere pure. Damp houses are particularly favorable to the development of tuberculosis. A change of climate is important, if only as a precaution against reinfection. It should be a fixed rule that a tuberculous patient should never return to the environment in which he contracted the disease.

The speaker said that in pulmonary affections cough is largely a matter of habit, and the patient should be instructed to avoid coughing except when the secretions had accumulated to such an extent as to make it possible to expel them by a short muscular effort.

DR. E. F. BRUSH of Mount Vernon protested against the very general assumption by the medical profession that the tuberculin test was a reliable test for tuberculosis in cattle. It was not reliable.

DR. THORNBURY said that Dr. Salmon, who was an authority on this subject, had stated that the tuberculin test was reliable in ninety-nine per cent. of cases in cattle, and the test was universally employed by the United States Department of Agriculture. Personally, he looked upon it as absolute means of diagnosis.

DR. F. C. CURTIS asked if tuberculosis were not more prevalent and attended by a larger fatality in prisons.

DR. RANSOM replied that a fair estimate of the death-rate from tuberculosis in penal institutions all over the world, would be about fifty-five per cent.

GEORGE SEYMOUR, M.D., of Utica, reported

A CASE OF HERNIA OF A SARCOMATOUS OVARY.

The patient was a woman of about forty years of age, the mother of seven children. On November 20, 1896, he had operated upon her, expecting to find an ordinary inguinal hernia, incarcerated, but not accompanied by intestinal obstruction. It was found to be attached by a long pedicle, extending from the body of the uterus within the pelvic cavity, out through the internal ring to the under side and upper end of the tumor as it lay in the inguinal ring. The pedicle was tied with a strong silk ligature. The severed end of the portion left within was sutured with catgut into the internal abdominal ring. The portion of sac was tied with catgut and excised. The tumor was oval, measured 4 inches in length and 8 inches in circumference, and weighed 5¾ ounces. Six weeks after the operation the large ligature of the pedicle had passed out through the sinus, and the wound had closed. Microscopic examination by the pathologist showed the tumor to be a spindle-cell sarcoma of the ovary. The woman is now in apparent good health, and has no pelvic discomfort. Menstruation had recurred twice, and apparently normally, since the operation. The speaker said that he had been unable to find any literature on record of hernia of a sarcomatous ovary. Cystosarcoma was more often mentioned than the other varieties of sarcoma. The case must be regarded as exceedingly rare.

DR. W. G. MACDONALD said that in a considerable operative experience he had seen only one case in which the hernial sac contained an ovary. It was not improbable that a small and ill-developed ovary might become incarcerated in the inguinal canal, and then, as was often the case with an undescended testicle, undergo sarcomatous degeneration. In most cases of ovarian hernia, vomiting was a prominent symptom, and its absence in the case just reported was therefore worthy of note.

The Society then adjourned.

REVIEWS.

TRANSACTIONS OF THE COLORADO STATE MEDICAL SOCIETY. Twenty-sixth annual convention. Denver, June, 1896.

THERE is the usual amount of good material in these Transactions. The articles show progressiveness and a great deal of original research. In addition to the record of the meeting, a list of the members of the Society is also printed.

TRANSACTIONS OF THE FIFTY-FIRST ANNUAL MEETING OF THE OHIO STATE MEDICAL SOCIETY, held at Columbus, May 27, 28, and 29, 1896.

BESIDES the address of the president, Dr. Daniel Millikin, on "A Study in Credulity," this volume contains many suggestive and valuable articles. "The Technic of Laryngeal Operations," by Dr. G. W. Crile; "The Dermatoses Due to Vegetable Parasites," by Dr. W. T. Corlett, and "A Plea Against the Meddlesome Treatment of Acute Gonorrhea in Women," by Dr. M. Rosenwasser, are among the best of many good contributions. To judge from this report, the meeting must have been a profitable one.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM DECEMBER 29, 1896, TO JANUARY 4, 1897.

The leave of absence on surgeon's certificate of disability, granted Major William C. Shannon, Surgeon, is extended three months on surgeon's certificate of disability, Fort Custer, Mont.

The leave of absence granted Captain William L. Kneedler, Assistant Surgeon, for seven days, San Diego Barracks, Cal., is extended twenty-three days.

Major William R. Hall, Surgeon, relieved from duty at Whipple Barracks, Ariz., and ordered to Washington, D. C., for duty.

First Lieutenant Irving W. Rand, Assistant Surgeon, relieved from duty at Fort Clark, Tex., and ordered to Fort Huachuca, Ariz., for duty.